SCREENING SITE INSPECTION FOR CAMP ADAIR CORVALLIS, OREGON

CERCLIS ID NO. OR0001097161

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CONTENTS

<u>Sec</u>	tion			<u>Page</u>
AB	BREVIA	TIONS AND ACRONYMS	· · • • • • • • • • • •	vi
1.0	INTRO	DUĊTION		. 1-1
2.0	SITE B	ACKGROUND		
	2.1	SITE LOCATION/DESCRIPTION	. .	. 2-2
	2.2	HISTORICAL SITE SUMMARY	, .	. 2-6
3.0	EXPOS	URE PATHWAYS AND POTENTIAL RECEPTORS .		
	3.1	GROUNDWATER PATHWAY		
		3.1.1 Geology and Hydrogeology	. .	. 3-1
		3.1.2 Groundwater Receptors	, 	
		3.1.3 Groundwater Quality		
	3.2	SURFACE WATER PATHWAY	. .	
		3.2.1 Surface Water Flow		
		3.2.2 Surface Water Receptors		
		3.2.3 Surface Water Quality		
	3.3	SOIL PATHWAY		
		3.3.1 Description of Soils		
		3.3.2 Soil Receptors		. 3-8
	3.4	AIR PATHWAY		
		3.4.1 Regional Characteristics	• • • • • • • • • •	
		3.4.2 Air Receptors	• • • • • • • • • •	. 3-9
4.0	SAMPL	ING PROGRAM	• • • • • • • • •	. 4-1
	4.1	SAMPLE TYPES, NUMBERS, LOCATIONS, AND RA	TIONALE.	. 4-1
	4.2	SAMPLING METHODS		
		4.2.1 Sediment Samples (TSOP 5.4)		. 4-1
		4.2.2 Quality Assurance Samples		
	4.3	EQUIPMENT DECONTAMINATION (TSOP 3.7)		
	4.4	INVESTIGATION-DERIVED WASTE		
5.0	SAMPL	ING RESULTS		. 5-1
	5.1	CAMP ADAIR SEDIMENT RESULTS		. 5-1
		5.1.1 Sample Results for Volatile Organic Compounds		. 5-2

CONTENTS (Continued)

Sect	<u>tion</u>	Page Page
	5.1.2 Sample Results for Semivolatile Organic Compounds	
	5.1.3 Sample Results for Inorganic Compounds	
	5.1.4 Sample Results for Ordnance Compounds	5-8
	5.2 QUALITY ASSURANCE/CONTROL SAMPLES	
•	5.3 SUMMARY AND CONCLUSION	5-9
6.0	REFERENCES	6-1
D	NAME OF THE PARTY	
FIG	GURES	
2-1	Camp Adair Site Location Map	2-3
2-2	Camp Adair Site Map 1995	2-5
2-3	Camp Adair Site Map 1940-1960	
4-1	Sample Location Map	
TAE	BLES	
IAL	DLES	
3-1	Groundwater Drinking Populations Within 4 Miles of the Camp Adair	
	Boundary	3-3
3-2	Groundwater Drinking Populations Within 4 Miles of the Cantonment	
	Area	
3-3	Residential Populations Within 4 Miles of the Site Boundaries	
4-1	Camp Adair Sediment Sampling Program	
5-1	Significance Criteria for Chemical Analysis	5-1
5-2	Semivolatile Organic Compounds in Sediments	5-3
5-3	Inorganics in Soap Creek Sediments	5-4
5-4	Inorganics in Staats Creek Sediments	
5-5	Inorganics in Berry Creek Sediments	
5-6	Ouality Assurance/Ouality Control Samples	5-7

ABBREVIATIONS AND ACRONYMS

Air Force United States Air Force
Army United States Army
bgs below ground surface

CLP Contract Laboratory Program
CRQL contract-required quantitation limit

DL detection limit

EPA United States Environmental Protection Agency

GSA General Services Administration
HPLC high-purity, low conductivity
IDW investigation-derived waste
MCL maximum contaminant level
mg/kg milligrams per kilogram

msl mean sea level
Navy United States Navy
NPL National Priorities List

ODEQ Oregon Department of Environmental Quality

OWRD Oregon Water Resources Department

ppb parts per billion

QAPP quality assurance project plan

RCRA Resource Conservation and Recovery Act

SAGE Strategic Air Guidance Equipment

SDWA Safe Drinking Water Act

SI site inspection

SQL sample quantitation limit SSI site screening inspection

SVOC semivolatile organic compound

TSOP Technical Standard Operating Procedures

URS URS Consultants, Inc.
VLI Valley Landfill, Inc.
VOC volatile organic compound

WAA War Assets Administration

1.0 INTRODUCTION

Pursuant to United States Environmental Protection Agency (EPA) Contract No. 68-W9-0054 and Work Assignment No. 54-17-0JZZ, URS Consultants, Inc. (URS), conducted a screening site inspection (SSI) of Camp Adair, near Corvallis, Oregon.

An SSI is the initial phase of the EPA site inspection (SI) process. The purpose of the SI process is to evaluate actual or potential environmental or public health hazards at a particular site relative to other sites across the nation in order to identify remedial action priorities. The purpose of the SSI process is to collect sufficient data in order to evaluate the site's potential for inclusion on the National Priorities List (NPL) and, for those sites determined to be NPL candidates, to establish priorities for additional action. The SI process and this SSI do not include extensive or complete site characterization, contaminant fate determination, or quantitative risk assessment.

The initial site visit for this site was conducted on August 8, 1995, for a preliminary assessment. Sampling was conducted on April 9, 10, and 11, 1996. Photodocumentation of the sampling is presented in Appendix A.

This report presents the findings of the Camp Adair SSI and defines the methods that were used to accomplish each objective. This plan is organized in the following manner:

- Section 1 Introduction—summary of purpose
- Section 2 Site Background—site history
- Section 3 Exposure Pathways and Potential Receptors
- Section 4 Sampling Program—sampling rationale and procedures
- Section 5 Sampling Results
- Section 6 References
- Appendix A Sampling Photodocumentation—April 9, 10, and 11, 1996
- Appendix B Net Precipitation Calculation
- Appendix C Well Logs
- Appendix D Groundwater Sampling Program, Coffin Butte Landfill
- Appendix E Laboratory Data Results and Data Validation Reports
- Appendix F Target and Actual Analytical Objectives

2.0 SITE BACKGROUND

Site Name:

Camp Adair

CERCLIS ID No.: OR0001097161

Location:

Seven Miles North of Corvallis, Oregon

Latitude:

44°41′00" North

Longitude:

123°13'00" West

Legal Description:

T 10S, R 4W, Sections 2-9, 16-21, 28-32

T 10S, R 5W, Sections 1-5, 7-16, 21-27

T 9S, R 4W, Section 31

T 9S, R 5W, Sections 1-30, 31-36 T 9S, R 6W, Sections 1-2,11-15,22-27

T 8S, R 5W, Sections 31-36

Site Owner/Operators:

Multiple site owners include:

U.S. Army Corps of Engineers

Oregon Department of Fish and Wildlife (E.E. Wilson Wildlife Area)

City of Adair Village

City of Albany

Valley Landfill, Inc.

Benton County Parks

Oregon State University (Paul M. Dunn Forest, McDonald Forest)

U.S. Forest Service (Siuslaw National Forest)

Private owners of agricultural and forest lands

Site Contacts:

Major James Lyman

(partial)

Oregon National Guard

P.O. Box 14350

Salem, Oregon 97309-5047

(541) 945-3914

> Mr. David Burdeau E.E. Wilson Wildlife Area 2955 Camp Adair Road Monmouth, Oregon 97361 (541) 745-5334

Ms. Wanda Tobiassen City of Adair Village 6030 NE Carr Avenue Corvallis, Oregon 97330 (541) 745-5507

Mr. Al Kitzman Benton County Parks 360 SW Avery Corvallis, Oregon 97333 (541) 924-6016 (pager)

Mr. William Webber Valley Landfill, Inc. P.O. Box 807 Corvallis, Oregon 97339 (541) 757-9067

The Camp Adair site was used by the United States Army (Army) as a World War II training facility. Because some of the training activities involved detonation of ordnance and the use of other potentially contaminating chemicals, Camp Adair is being evaluated by the United States Environmental Protection Agency (EPA).

2.1 SITE LOCATION/DESCRIPTION

The site consists of 56,815.17 acres (approximately 89 square miles) approximately 7 miles north of Corvallis, Oregon (U.S. Army Corps 1993). It is situated within northern Benton County and southern Polk County, adjacent to the Willamette River on the east and the Coast Range Mountains on the west. North-south access through the site is by State Highway 99W. Figure 2-1 shows the site location.

Most activities of concern took place on the southern half of the site. The PA site visit conducted on August 8, 1995, revealed that the majority of military activity occurred in

the area south of the Luckiamute River (approximately 2.5 miles north of Airlie Road). All references within this report relate to only this southern portion. Figure 2-2 shows the southern site area.

Camp Adair is composed of flat agricultural lands, numerous wetland areas, and gently rolling hills with abundant forests. The topography varies between 200 feet above mean sea level (msl) for the farmlands to 2,000 feet above msl for the hilltops. The western portion of the site consists mostly of fir forest on privately owned lands and on the Paul M. Dunn Forest (managed by the University of Oregon). Agriculture and unfarmed grasslands are located along the north and northeast portions of the site. The statemanaged E.E. Wilson Wildlife Area is east of Highway 99W. The city of Adair Village and the McDonald Forest are along the southeast portion of the site.

The center of past military activities on the site occurs along Highway 99W and Coffin Butte Road/Camp Adair Road. To the east of Highway 99W on Camp Adair Road lies the former World War II cantonment (military quarters). The old building foundations and streets of the cantonment remain, although they are slightly overgrown by blackberry bushes. The Oregon Department of Fish and Wildlife currently manages this area as part of the E.E. Wilson Wildlife Area. Figure 2-2 shows the general outlines of the street configurations.

West of the cantonment area and across Highway 99W, on Coffin Butte Road, lies the Coffin Butte Landfill. The landfill was formerly used by the Army and is now operated by a private Subtitle D Resource Conservation and Recovery Act (RCRA) landfill entity, Valley Landfill, Inc. (VLI).

South of the cantonment area lies the city of Adair Village, population 595. Adair Village is built over the former site of naval hospital facilities and a United States Air Force (Air Force) station. The wastewater treatment facility constructed by the Air Force is north of the city and is still active.

Boise Cascade operated a mill west of the cantonment area on Camp Adair Road from 1973 until 1981.

Approximately one-third of the site is designated for public recreational purposes. The Paul M. Dunn Forest and the McDonald Forest together encompass approximately 10,000 acres on the southwest portion. These areas are managed by Oregon State University and provide outdoor recreation such as hiking, biking, and photography.

The Peavy Arboretum, which is accessed from Highway 99W, encompasses 40 acres. This multispecied arboretum is managed by Oregon State University's College of Forestry and offers interpretive hiking trails and picnic facilities to the public.

The E.E. Wilson Wildlife Area encompasses 1,683 acres in the central portion of the site along Highway 99W. This area offers multiple recreational and education opportunities including fishing, hunting, wildlife viewing, hiking, and bicycling. In addition, classes are held here and there is a designated area for dog training.

2.2 HISTORICAL SITE SUMMARY

Camp Adair was developed by the Army from 1942 through 1945 to train troops for World War II. The construction of the base required the razing of several homes and the relocation of the town of Wells, railroad tracks, and cemeteries. During its prime, the camp was considered the second largest city in Oregon. Four Army divisions, each with 15,000 men, trained at Camp Adair. These divisions were the 91st Powder River Infantry Division, the 96th Deadeye Infantry Division, the 104th Timberwolf Infantry Division, and the 70th Trailblazer Infantry Division. Figure 2-3 shows how Camp Adair was used when occupied by the military. The areas where weapons training occurred are shaded and included ranges for rifle, pistol, machine gun, anti-tank gun, anti-aircraft, and grenade weapons (ordnance). Additionally, gas chambers were used in the training and are noted on the figure.

The cantonment was immediately east of Highway 99W along the valley floor. Training maneuvers were conducted west of the highway in the hills. Several artillery ranges were designated in the west portion of the site.

When the Army divisions left Camp Adair for their assignments (between 1943 and 1945), the Camp Adair hospital was turned over to the U.S. Navy (Navy) as the Corvallis Naval Hospital. The hospital facilities were enlarged to care for 3,600 patients. War casualties from the Pacific were brought by train to Camp Adair for treatment and recuperation (BCHS 1992).

The Army training camp remained active until 1946, at which time the War Assets Administration (WAA) declared the land and buildings to be in excess. The Army removed all of the buildings in the cantonment area, leaving only the foundations. Most of the property was sold to private parties for agricultural and forest harvest lands. The Oregon Department of Fish and Wildlife was deeded an area of approximately 1,683 acres, which was established as a wildlife refuge and game farm in 1950. The hospital

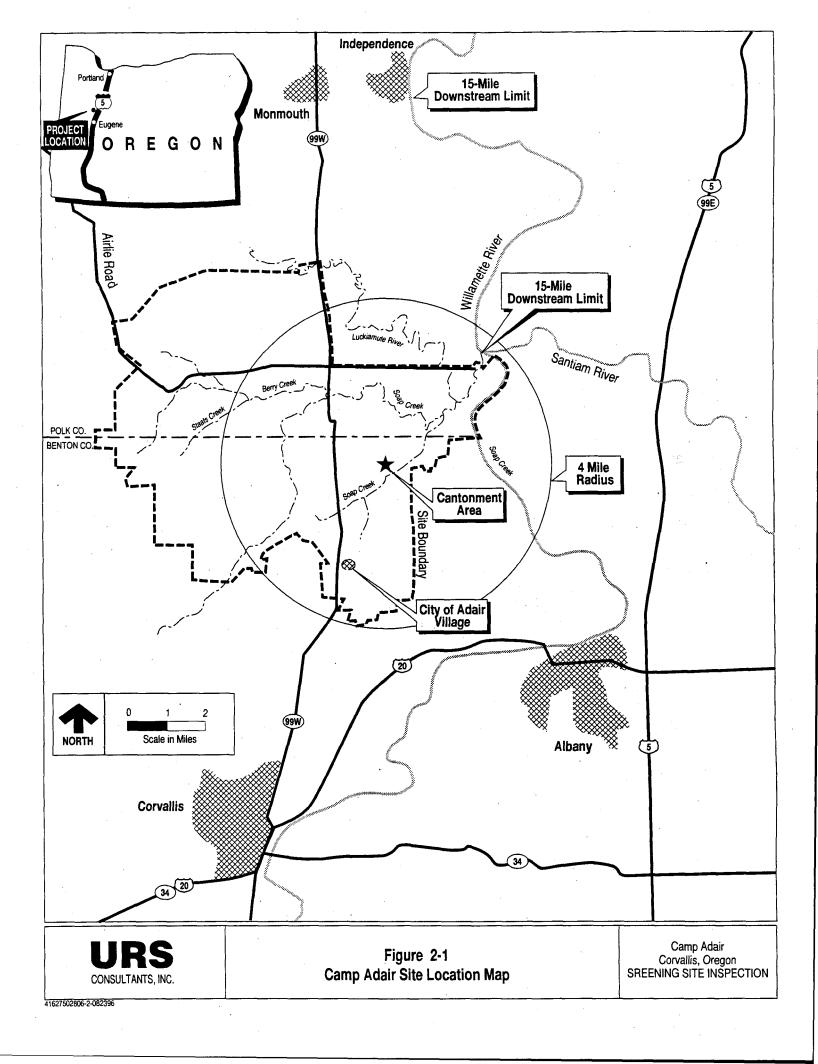
wards were converted into apartments for students (Camp Adair Village) and were used for this purpose from 1946 until 1951.

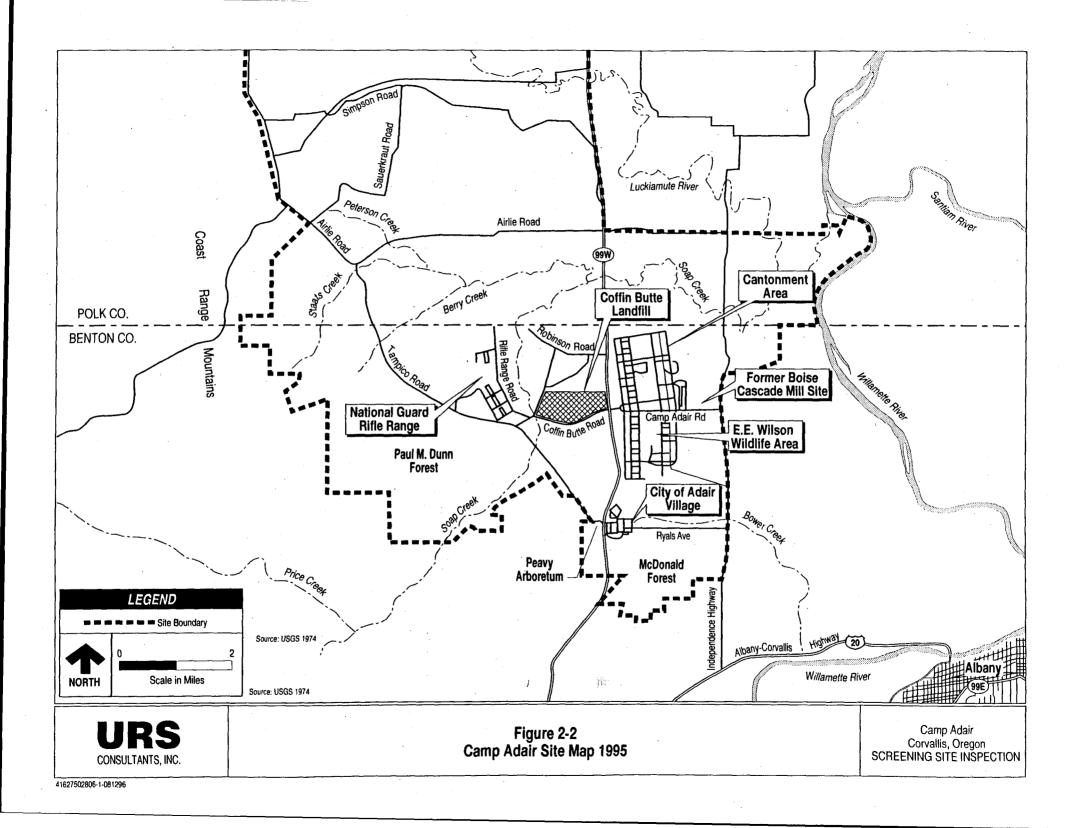
In 1958 and 1959, the Air Force acquired 587.51 acres south of the cantonment area—including the Naval Hospital—for use as the Adair Air Force Station. The Adair Air Force Station was the command center for the Portland Air Defense Section, which protected the west coast from air attack. A radar information sorting facility called Strategic Air Guidance Equipment (SAGE) and new housing facilities were constructed on site. In addition, the Air Force began construction of the ballistic missile on site; however, the program was abandoned due to lack of funding. The Air Force remained active on site until 1970, at which time the land was declared in excess and reported to the General Services Administration (GSA) for disposal.

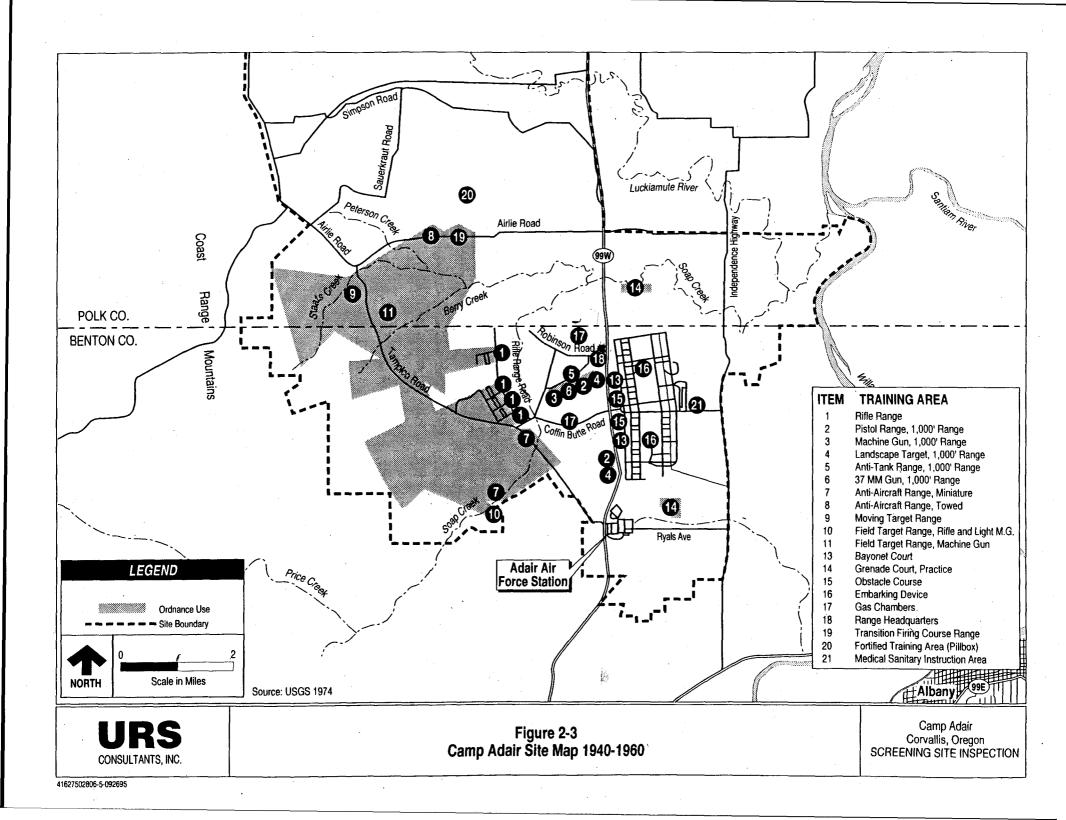
GSA assumed accountability for 736 acres not already disposed of by WAA. GSA quitclaim deeded (transferred title of) 124 acres to Plywood Products, Inc., 85 acres to the State of Oregon, and 527 acres to the National Guard Bureau. GSA transferred 140 acres to the Department of Agriculture and 26 acres to the Secretary of Health, Education, and Welfare, which quitclaim deeded 214 acres to the U.S. International University and 112 acres to the City of Albany. GSA also quitclaim deeded 62 acres to A.G. Proctor Company and 60 acres to Wells Property, Inc.

In 1960, Georgia Pacific purchased the property and a small mill on Camp Adair Road owned by Plywood Products, Inc. In 1973, Boise Cascade purchased the mill site and continued operating the mill until 1981. In 1990, this area underwent site remediation of contaminated soils by Boise Cascade. After remediation was completed, Boise Cascade donated the land to the City of Adair Village (Tobiassen 1995; Lambier 1990).

The Coffin Butte Landfill was purchased in 1975 by VLI. On May 25, 1976, Adair Village was incorporated.







3.0 EXPOSURE PATHWAYS AND POTENTIAL RECEPTORS

3.1 GROUNDWATER PATHWAY

3.1.1 Geology and Hydrogeology

The Camp Adair area is part of a broad alluvial plain that lies between the Cascades Mountain range and the Willamette Valley of northwestern Oregon. The lowland areas are within an alluviated valley plain with elevations ranging from 200 to 300 feet above msl, and irregular bottom lands along the streams that are 5 to 30 feet below the valley-plain terrace. The upland parts of the area consist of hills and ridges of the Coast Range at elevations ranging from 500 to 2,000 feet above msl (USGS 1974).

Camp Adair lies along the northern end of a prominent Lower Eocene volcanic feature. The basalt feature consists of dark greenish-gray aphanitic to porphyritic flows, breccia, tuff, and related intrusive rocks with pillow structures and zeolite and calcite amygdules (small bubble in lava filled with secondary minerals). West of this basaltic feature, on the westernmost portion of the site, lies the Siletz River Volcanic Series, including subordinate waterlaid tuffaceous sedimentary rocks known as the Kings Valley siltstone (USGS 1961). Alluvial deposits (clays, silty clays with gravel, or silty sands) overlie the volcanics and are present along the lower slope areas of Coffin Butte (ODEQ 1995).

Along the northeast corner of the site, where the Willamette and Luckiamute rivers are situated, the floodplains and the low terrace lands are underlain by beds of silt, clay, sand, and gravel. These alluvial beds are almost 100 to 150 feet thick in the central parts of the Willamette Valley and taper out entirely at the edges of the plains of the tributary rivers. The bedrock materials of the region underlie the alluvial deposits. The alluvial materials are not highly productive and the sandstone bedrock generally does not yield large quantities of water (OWRD 1952).

The primary aquifers in the area are tertiary-quaternary sedimentary deposits in the low-lying plains and the tertiary rocks of the Coastal Range in the upland areas (USGS 1984). The depth to groundwater ranges from 5 to 20 feet below ground surface (bgs) in the lowlands to 100 feet bgs in the high areas (OWRD 1995). The primary method of groundwater recharge for the area is precipitation, which averages 42.70 inches annually (USDC 1973). The annual net precipitation is 29.72 inches (USDC 1973). (See Appendix B.) Late autumn and winter are the primary seasons of aquifer recharge (USGS 1974).

The topographic features of the site strongly influence the groundwater flow patterns in the alluvium and shallow bedrock. Specifically, at Coffin Butte Landfill, the general groundwater flow is to the west along the western portion of the landfill and to the east along the eastern portion of the landfill (ODEQ 1995).

At the cantonment area the shallow groundwater was found to "parallel the surface topography and eventually discharge into the on-site pond" (Lambier 1990). Because of the low permeability of the silty soils in the area, the rate of flow is estimated to be 1 foot per year (Lambier 1990). Historical attempts (suspected to be by the military) to place deep wells at the cantonment area were unsuccessful, apparently due to the presence of extensive clay and silty soils beneath the site. The depth to water in this area is reported to fluctuate as much as 10 feet. This fluctuation is related to the seasonal changes of precipitation (Lambier 1990).

Appendix C contains well logs that give a general idea of the site lithology (OWRD 1995).

3.1.2 Groundwater Receptors

The largest cities in the region—Corvallis, Albany, and Adair Village—all receive their municipal water from surface water sources upriver from the site (USGS 1974; Tobiassen 1995). The major source of drinking water for the Camp Adair site, excluding the Adair Village, is private domestic groundwater wells. According to the records at the Oregon Water Resources Department (OWRD), there are 238 domestic groundwater wells within the borders of Camp Adair, with an estimated drinking water population of 700 (OWRD 1995). (See Appendix C for a map of the general locations of these wells.)

A total of 1,049 private domestic wells and 7 community drinking water wells were identified within a 4-mile radius of the Camp Adair boundary. These wells are all located within rural areas that are not supplied by municipal services. The seven community wells are owned and operated by small housing communities. These wells were assumed to supply 20 people each. A total of 3,224 groundwater users were estimated within 4 miles of the site boundaries; this area encompasses approximately 180 square miles. Table 4-1 provides specific details about the drinking water populations within a 4-mile radius of the Camp Adair boundary (OWDR 1995; USDC 1990).

Using the cantonment area as a more specific point, an estimated 1,543 groundwater users are located within a 4-mile radius of the cantonment area. Table 4-2 provides specific details about the wells in this area. Generally, the north and west portions of the site appear to have little groundwater productivity. Most of the drinking water wells

Table 3-1
Groundwater Drinking Populations Within 4 Miles of the Camp Adair Boundary

Distance From Center (Miles)	Number of Domestic Wells	Domestic Population	Number of Community Wells	Community Population	Total Population
On site	238	700	0	0	700
0 to 0.25	50	147	0	. 0	147
0.25 to 0.5	49	144	0	0	144
0.5 to 1	99	291	0	0	291
1 to 2	211	620	0	0 .	620
2 to 3	207	609	3	60	669
3 to 4	195	573	4	80	653
Total	1,049	3,084	7	140	3,224

Note: Population figures were based on an estimate of 2.94 people per household (USDC 1990). Community wells were assumed to support a well population of 20 users each.

Table 3-2
Groundwater Drinking Populations Within 4 Miles of the Cantonment Area

Distance From Center (Miles)	Number of Domestic Wells	Domestic Population	Number of Community Wells	Community Population	Total Population
0 to 0.25	NA	0	0	0	0
0.25 to 0.5	NA	0 .	.0	0	. 0
0.5 to 1	NA	0	0	0	0
1 to 2	144	426	0	0	426
2 to 3	124	367	0	0	367
3 to 4	248	730	1	20	750
Total	516	1,523	1	20	1,543

Note: Population figures were based on an estimate of 2.94 people per household (USDC 1990). Community wells were assumed to support a well population of 20 users each.

are within the east portion of the site. The number of wells increases substantially from north to south.

3.1.3 Groundwater Quality

3.1.3.1 Coffin Butte Landfill

The Coffin Butte Landfill currently maintains 45 on-site monitoring wells. These wells are all part of a continuing groundwater study conducted under the guidance of the Oregon Department of Environmental Quality (ODEQ). Some of these wells are used for the quarterly groundwater sampling program at the landfill. The parameters analyzed by the program include "typical landfill parameters plus VOCs (volatile organic compounds) and radioactive particles" (Voss 1995a). Appendix D contains some of the analytical results.

Low concentrations of VOCs and metals have been detected in the groundwater at Coffin Butte Landfill. Because of these detections, the landfill site was placed on the ODEQ Site Assessment Program in July 1995. A historical review of all groundwater data seems to indicate that low concentrations of possible landfill contaminants have infiltrated the shallow aquifers near the closed landfill and cell 1A in the active landfill. No detections of VOCs have been above the respective maximum contaminant levels (MCLs) or health-based drinking water standards (EMCON 1995a).

Low concentrations of VOCs have been detected in the two monitoring wells downgradient from the closed landfill, wells MW-20 and MW-21 (Figure 1 in Appendix D). Additionally, one piezometer, P-9, was sampled once in 1994 and had detections of "elevated concentrations of inorganics, cations, and anions, with total dissolved soils and manganese concentrations exceeding secondary MCLs" (EMCON 1995a). The monitoring wells are screened to approximately 11 through 20 feet bgs (EMCON 1995a).

One nearby residential well, Helms well, is approximately 300 feet southwest of the closed portion of the landfill, across Soap Creek. Analytical results from water samples collected from this well have revealed low concentrations of VOCs, including methylene chloride, trichlorofluoromethane, and 1,1,1-trichloroethane. Trichlorofluoromethane does not have a drinking water standard, and 1,1,1-trichloroethane has a drinking water standard of 200 parts per billion (ppb). Methylene chloride was believed to have been a laboratory contaminant. The landfill may not be the source of these detected compounds because the Helms well's aquifer is believed to be separated from the closed landfill aquifer. A water table study conducted of the landfill site revealed that Soap

Creek acts as a groundwater divide based on potentiometric contours (EMCON 1995a; ODEQ 1995).

On March 3, 1995, five monitoring wells (MW-13, MW-10D, MW-10S, MW-11D, and MW-11S) were sampled for radioactive substances. Four of these wells are downgradient of cell 1A, and one is upgradient of the landfill. Groundwater samples were analyzed for gross alpha and gross beta particle activities in water by using an analytical method screening technique according to the limits set forth under the federal Safe Drinking Water Act (SDWA). The sample results demonstrate that there is no leaching of radioactive material from the landfill to the groundwater (see Appendix D) (EMCON 1995a).

Tetrachloroethene and VOCs have been detected in wells MW-10S/D and MW-11S/D. These wells are downgradient from cell 1A. (See Appendix D for a summary table of the maximum concentrations detected in these wells.)

The Coffin Butte Landfill contains a leak detection system for the recently constructed leachate lagoon and cell 2. The system consists of dedicated Redi-flo2 Grundfos electric submersible pumps within riser pipes that provide access to low spots below the leachate sumps. The detection system revealed a minor leak in the primary geomembrane liner to the leachate lagoon. Between July and August 1995, VLI reported draining the leachate lagoon and repairing the liner (EMCON 1995b).

3.1.3.2 Mill Property

Numerous groundwater investigations have been conducted at the former mill property on Camp Adair Road. These investigations included sampling the shallow groundwater (water table) through piezometers and temporarily installed drive-points. The groundwater samples were submitted for analysis of suspected contaminants, including pentachlorophenol, tetrachlorophenol, petroleum hydrocarbons, lead, and VOCs. Analytical results indicated low concentrations of pentachlorophenol and lead, with maximum concentrations of 2.7 ppb and 16 ppb, respectively (Lambier 1990).

Site remediation by soil removal was conducted by Boise Cascade in 1990. After the site remediation, the groundwater was sampled and analyzed. Analytical results indicated 1.3 ppb of pentachlorophenol at the glue water sump. No other contaminants were detected (Lambier 1990).

3.2 SURFACE WATER PATHWAY

3.2.1 Surface Water Flow

Camp Adair is on more than 56,000 acres that border the basaltic Coast Range and the alluvial valley of the Willamette Valley. The area has a relatively mild and wet climate, with an average annual precipitation of 42.70 inches and a 2-year 24-hour precipitation of 0.4 inch (NOAA 1973; USDC 1973). Surface water flow for the Camp Adair area eventually reaches the primary river, the Willamette River, located along the eastern boarder of the site approximately 3.5 miles east of the cantonment area (USGS 1974). The Willamette River flows south to north with an average annual discharge of 14,320 cubic feet (USGS 1993).

The Soap Creek drainage area is responsible for most of the surface water drainage of the site. The western portion of the site is drained primarily by the Soap Creek drainage area, consisting of Soap Creek (13 miles long), Peterson Creek (2 miles long), Staats Creek (4.5 miles long), and Berry Creek (5.5 miles long). Soap Creek eventually discharges into the Luckiamute River, 1 mile upstream from the Willamette River.

A tributary of Soap Creek is located on the mill property and flows into a small pond. Shallow groundwater in the area is believed to discharge to the pond and creek, maintaining a minimal base flow of surface water at the site.

Adair Village is drained by Bowers Slough and its numerous tributaries located along the alluvial plain of the eastern portion of the site. Bowers Slough runs approximately 4.5 miles southeast from Adair Village to the Willamette River.

3.2.2 Surface Water Receptors

Corvallis, Albany, and Adair Village all receive their municipal water supplies from surface water sources. Corvallis obtains its water mainly from Rock Creek; auxiliary supplies come from the Willamette River. Albany receives its water from the South Santiam River (USGS 1974). Adair Village collects its water on the Willamette River, approximately 3 miles upstream from the Camp Adair site.

No surface water intakes used for drinking water purposes are known to exist within 15 miles downstream of the Camp Adair site (USGS 1974).

It is estimated that the Camp Adair site contains over 2,000 acres of wetlands. These wetlands occur along the known water bodies of Peterson Creek, Staats Creek, Berry

Creek, Soap Creek, Luckiamute River, and Willamette River. The wetlands in the western portion of the site consist of an estimated 18 river miles (Soap, Staats, Peterson, and Berry creeks) of palustrine scrub-shrub. A lowland wetland area exists where Peterson Creek and Staats Creek merge with Berry Creek. This area is estimated to contain 150 acres of palustrine wetlands (USDI 1975, 1980).

Soap Creek east of Highway 99W contains 7 river-miles of wetlands classified as both palustrine forested and palustrine emergent. A large palustrine wetland area of approximately 200 acres occurs in the northeastern portion of the site where the Luckiamute River and Soap Creek intersect (USDI 1975, 1980).

The cantonment area was reportedly constructed on a former wetland. Approximately 40 acres of this area has been redeveloped with much success by the E.E. Wilson Wildlife Area.

3.2.3 Surface Water Quality

3.2.3.1 Coffin Butte Landfill

Soap Creek surface water near Coffin Butte Landfill is sampled quarterly at one upstream and one downstream location. Surface water quality in Soap Creek does not demonstrate any landfill impacts at the downstream location, as indicated by statistical averages calculated by EMCON (EMCON 1995a). Methyl ethyl ketone (MEK) and acetone were detected in surface water in an unnamed tributary that drains the field south of cells 1 and 1A to Soap Creek. This field was irrigated with leachate on a temporary basis during the summer of 1993. The sampling locations were near a drain tile for the field. No impacts were detected in subsequent monitoring of the drain tile outflow during the following rainy season in December 1993 and March 1994 (EMCON 1995a).

3.2.3.2 Adair Village Wastewater

In 1993, ODEQ evaluated the surface water in Bowers Slough in relation to the Adair Village wastewater treatment facility discharge. The results indicated poor dilution of effluent in the slough, "making the water quality downstream poorer than upstream" (ODEQ 1993a). Adair Village is currently upgrading its wastewater treatment facility to discharge directly into the Willamette River. ODEQ evaluated the discharge into the Willamette River and believes that there will be "no measurable impact since the effluent will receive adequate dilution and mixing" (ODEQ 1993b).

The small pond on the former mill property was previously tested for possible contamination. No detections were present. No other surface water is known to be impacted by activities at the Camp Adair site.

3.3 SOIL PATHWAY

3.3.1 Description of Soils

The soils vary greatly throughout the Camp Adair site. Generally, the soils throughout the cantonment area and the east portion of the site are dominated by deep, well-drained to poorly drained soils of the Willamette Valley Terraces. The surface soils within the cantonment area are of the Woodburn-Willamette association, which are moderately well-drained and well-drained silt loams. The surface soils along most of the western portion of the site include the Dixonville-Philomath association and the Price-Ritner association, which are classified as areas dominated by moderate to deep well-drained silty clay loams and well-drained silty clays. The area along Soap Creek is classified as a Waldo-Bashaw association, which is poorly drained silty clay loams and clays (USDA 1975).

3.3.2 Soil Receptors

An estimated 1,295 people reside on the Camp Adair site. Of this total, 595 people reside within Adair Village. The majority of the people who reside on the site own multi-acre farms or timber harvest areas. No residences are known to exist within the state and federal parks of Paul Dunn State Forest, McDonald State Forest, and Peavy Arboretum. Residents within 4 miles of the site boundaries number 3,819. Both the Albany and Corvallis populations are located approximately 5 miles from the boundaries of the site. Residential populations identified within a 4-mile radius of the site boundaries are assumed as shown in Table 3-3.

Coffin Butte Landfill and the wastewater treatment facility were observed as the only areas from which the public was restricted by secure fencing. Approximately one-third of the Camp Adair site is estimated to be designated as public recreational land (URS 1995).

198

Table 3-3
Residential Populations Within 4 Miles of the Site Boundaries

Distance From Site (Miles)	Residential Population
On Site	1,295
0 to 0.125	70
0.125 to 0.25	77
0.25 to 0.5	144
0.5 to 1	291
1 to 2	620
2 to 3	669
3 to 4	653
Total Population	3,819

Source: OWRD 1995; USDC 1990; URS 1995

3.4 AIR PATHWAY

3.4.1 Regional Characteristics

The Camp Adair site contains mostly rural undeveloped lands. The climate in the area is as diversified as the topography. The Coast Range exerts a major influence on the climate of the Camp Adair Area. The annual normal precipitation for the area ranges from nearly 40 inches along the valley floor to more than 110 inches at higher elevations in the Coast Range. The primary months for precipitation are from November through March.

3.4.2 Air Receptors

The residential population within 4 miles of the site is detailed in Table 3-3. The closest resident is located on site at Camp Adair.

The E.E. Wilson Wildlife Area supports an abundant number of wildlife species. Sensitive species on the site include the western pond turtle and red-legged frog, bald eagle, trumpeter swan, and ringneck snakes. The bald eagle is on the list of federally threatened species, and the trumpeter swan is listed as a game bird.

Bird species reported to nest locally at Camp Adair include the mallard duck, red-tail hawk, California quail, ring-necked pheasant, mourning dove, great-horned owl, short-eared owl, cliff swallow, scrub jay, common bushtit, American robin, common yellowthroat warbler, Brewer's blackbird, redwinged blackbird, American goldfinch, rufous-sided towhee, Savannah sparrow, dark-eyed junco, white-crowned sparrow, and song sparrow.

Approximately 2,000 acres of wetlands exist on site (discussed in Section 3.2.2).

4.0 SAMPLING PROGRAM

In order to establish if military operations at Camp Adair had any impact on the surface water bodies running across it, URS, in conjunction with the EPA Region 10, developed a field sampling plan. The field sampling plan focused on four creeks that traverse the area where ordnance was used. Sediment samples were collected from upstream, on site, and downstream of the ordnance use area.

4.1 SAMPLE TYPES, NUMBERS, LOCATIONS, AND RATIONALE

Samples collected at the Camp Adair site are summarized in Table 4-1 and shown on Figure 4-1. The collection methods are described in Section 4.2.

4.2 SAMPLING METHODS

The media-specific sampling procedures were consistent with methodologies described in the *Technical Standard Operating Procedures (TSOP) for ARCS* (URS 1992b) contract activity, and the EPA publication *A Compendium of Superfund Field Operations Methods* (EPA 1987). All sampling equipment was decontaminated prior to and following use in accordance with TSOP 3.7.

All sample containers were clearly labeled with the EPA sample number, date, time, type of sample, and sampling personnel (TSOP 2.3, 2.4, and 2.5). Additionally, EPA sample tags were taped to the sample bottles and the bottle lids were individually custody sealed. After the samples were collected, the containers were placed in cooled ice-chests, which were maintained at approximately 4°C, and shipped to an analytical laboratory. Chain-of-custody forms were filled out and placed in the chests with the samples. The ice-chests were then sealed for shipment with duct tape and custody seals. An accurate log of the sampling event and other information pertinent to the sampling was recorded in the field logbook. Additional sample tracking was completed through the use of ARCS sample logs as defined in TSOP 2.6 (URS 1990b).

4.2.1 Sediment Samples (TSOP 5.4)

To assess whether past site practices in the weapons training areas have impacted on-site and downgradient surface water quality, 21 sediment samples were collected, including

Table 4-1 Camp Adair Sediment Sampling Program

Matrix	Sample Number	Location	Rationale	Analytes to be Tested	Date and Time Collected
Sediment	CA01	Upgradient area of Soap Creek	Characterize background sediments	VOAs, SVs, inorganics, and ordnance compounds	4/9/96 14:26
	CA02	Upgradient area of Staats Creek	Characterize background sediments	VOAs, SVs, inorganics, and ordnance compounds	4/10/96 15:25
	CA03	Upgradient area of Berry Creek	Characterize background sediments	VOAs, SVs, inorganics, and ordnance compounds	4/11/96 10:45
	CA04	On site or downgradient area of Soap Creek	Characterize sediment	VOAs, SVs, inorganics, and ordnance compounds	4/9/96 15:02
	CA05ª	On site or downgradient area of Soap Creek	Characterize sediment	VOAs, SVs, inorganics, and ordnance compounds	4/9/96 15:47
	CA06	On site or downgradient area of Soap Creek	Characterize sediment	VOAs, SVs, inorganics, and ordnance compounds	4/9/96 16:27
	CA07	On site or downgradient area of Soap Creek	Characterize sediment	VOAs, SVs, inorganics, and ordnance compounds	4/9/96 17:20
·	CA08	On site or downgradient area of Soap Creek	Characterize sediment	VOAs, SVs, inorganics, and ordnance compounds	4/10/96 11:10
	CA09	On site or downgradient area of Soap Creek	Characterize sediment	VOAs, SVs, inorganics, and ordnance compounds	4/9/96 18:04
	CA10	On site or downgradient area of Soap Creek	Characterize sediment	VOAs, SVs, inorganics, and ordnance compounds	4/10/96 12:00
	CA11	On site or downgradient area of Berry Creek	Characterize sediment	VOAs, SVs, inorganics, and ordnance compounds	Not collected
	CA12ª	On site or downgradient area of Berry Creek	Characterize sediment	VOAs, SVs, inorganics, and ordnance compounds	4/11/96 14:00

Table 4-1 (Continued) Camp Adair Sediment Sampling Program

Matrix	Sample Number	Location	Rationale	Analytes to be Tested	Date and Time Collected
Sediment (cont.)	CA13	On site or downgradient area of Berry Creek	Characterize sediment	VOAs, SVs, inorganics, and ordnance compounds	4/11/96 14:45
	CA14	On site or downgradient area of Berry Creek	Characterize sediment	VOAs, SVs, inorganics, and ordnance compounds	4/11/96 11:45
	CA15	On site or downgradient area of Berry Creek	Characterize sediment	VOAs, SVs, inorganics, and ordnance compounds	4/11/96 12:50
	CA16	On site or downgradient area of Berry Creek	Characterize sediment	VOAs, SVs, inorganics, and ordnance compounds	4/10/96 12:30
	CA17ª	On site or downgradient area of Staat Creek	Characterize sediment	VOAs, SVs, inorganics, and ordnance compounds	4/10/96 14:26
	CA18	On site or downgradient area of Staat Creek	Characterize sediment	VOAs, SVs, inorganics, and ordnance compounds	4/10/96 16:14
	CA19	On site or downgradient area of Staat Creek	Characterize sediment	VOAs, SVs, inorganics, and ordnance compounds	4/10/96 16:45
	CA20	On site or downgradient area of Staat Creek	Characterize sediment	VOAs, SVs, inorganics, and ordnance compounds	Not collected
	CA21	Duplicate of sample CA05	Quality control	VOAs, SVs, inorganics, and ordnance compounds	4/9/96 15:56
	CA22	Duplicate of sample CA18	Quality control	VOAs, SVs, inorganics, and ordnance compounds	4/10/96 16:30
	CA23	Upgradient area of Peterson Creek	Characterize background sediments	VOAs, SVs, inorganics, and ordnance compounds	4/10/96 13:00

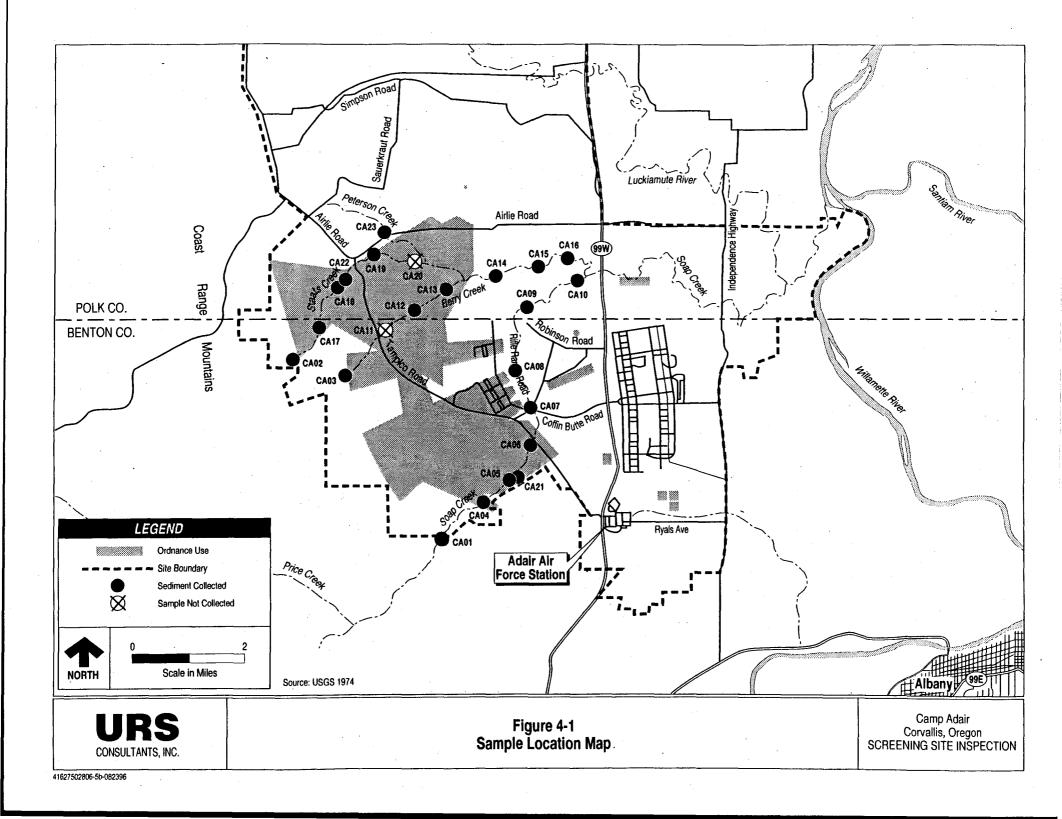
Table 4-1 (Continued) Camp Adair Sediment Sampling Program

Matrix	Sample Number		Rationale	Analytes to be Tested	Date and Time Collected
Water	CA24	Equipment rinsate	Quality control	VOAs, SVs, inorganics, and ordnance compounds	4/9/96 18:10
	CA25	Equipment rinsate	Quality control	VOAs, SVs, inorganics, and ordnance compounds	4/10/96 16:48
	CA26	Trip blank	Quality control	VOAs	4/9/96 21:33
	CA27	Trip blank	Quality control	VOAs, SVs, inorganics, and ordnance compounds	4/10/96 20:30
	CA28	Trip blank	Quality control	VOAs	4/11/96 16:30

^aSamples intended as matrix spike/matrix spike duplicate (MS/MSD) samples

Notes:

VOAs Volatile organic analytes SVs Semivolatile organic analytes



field duplicates. The sediment samples were collected from sediment deposition areas in the creek and river locations. The sediment samples were collected by using a decontaminated spoon to remove the sediments from the creek. The sediment was then placed in a decontaminated stainless steel bowl. The sample portions to be submitted for analysis of volatile organic compounds (VOCs) were immediately transferred to the bottles. The remaining sediment was homogenized and then transferred into the other sample containers. Four of the sediment sample locations were selected to represent background conditions (CA01, CA02, CA03, and CA23).

Sediment samples identified in Table 4-1 were collected in the above detailed manner in order to satisfy the sampling objectives described in the Camp Adair field sampling plan (URS 1996a).

4.2.2 Quality Assurance Samples

One trip blank per ice chest was included with the environmental samples. This blank was used to assess the potential for cross-contamination during transport.

One equipment rinsate was collected after sample collection was completed and equipment was decontaminated. The rinsate was used to assess the thoroughness of the equipment decontamination process and the potential for cross-contamination during sample collection.

Two field duplicates were collected. The duplicates were used to assess the variability of sample collection methods. Three triple volume matrix spike/matrix spike duplicate samples were collected. The laboratory used this extra volume sample to perform spiked analyses.

4.3 EQUIPMENT DECONTAMINATION (TSOP 3.7)

To the greatest extent possible, disposable and/or dedicated personal protection and sampling equipment were used to avoid cross-contamination and to eliminate the generation of investigation-derived waste (IDW). Before sampling, all equipment (dedicated and nondedicated) was thoroughly cleaned with potable water and nonphosphate detergent, followed by successive rinses of potable water and reagent-grade distilled water. The equipment used for the sampling of VOCs was rinsed with reagent-grade methanol. Equipment rinsed with methanol was allowed to dry to eliminate methanol-contaminated IDW and then underwent a final rinse that involved rinsing twice with reagent-grade distilled water. The equipment was then air-dried.

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Immediately after sampling, each piece of sampling equipment was brushed with either a bristle or steel wire brush to remove gross particulate contamination. Following this initial cleaning, the equipment was cleaned in accordance with the procedures described above. When all field work was completed, the decontaminated equipment was wrapped in aluminum foil, with the shiny side out, and transferred to the URS equipment storage facility.

4.4 INVESTIGATION-DERIVED WASTE

For the collection of sediment samples, only dedicated, disposable sampling equipment was used. This eliminated, the generation of IDW.

5.0 SAMPLING RESULTS

The conditions used to define an "observed release" of a particular substance to any of the matrices sampled during the data evaluation process are summarized in Table 5-1 (EPA 1994). Discussions of data results for soils in this report use the term "significant" to classify concentrations of detected chemicals based on the criteria described in Table 5-1. The results discussed in the following sections are limited to those substances determined to be significant (as defined in Table 5-1).

Table 5-1
Significance Criteria for Chemical Analysis

Sample Measurement < Sample Quantitation Limit*	Sample Measurement ≥ Sample Quantitation Limit
No observed release is established; the result is not identified as significant	 An observed release or significant result is established as follows: If the background concentration is not detected (or is less than the detection limit), an observed release or significant result is established when the sample measurement equals or exceeds the sample quantitation limit. If the background concentration equals or exceeds the detection limit, an observed release or significant result is established when the sample measurement is three times or more above the background concentration.

*If the sample quantitation limit (SQL) cannot be established, determine whether there is an observed release as follows:

- If the sample analysis was performed under the EPA Contract Laboratory Program (CLP), use the EPA contract-required quantitation limit (CRQL) in place of the SQL.
- If the sample analysis was not performed under the EPA CLP, use the detection limit (DL) in place of the SQL.

5.1 CAMP ADAIR SEDIMENT RESULTS

Samples collected during this investigation were analyzed for volatile and semivolatile organic compounds and for ordnance compounds as described in the field sampling plan (URS 1996). The laboratory data results and data validation reports are included in Appendix E. Any sediment data results that satisfy the criteria listed in Table 5-1

(described as significant) are highlighted in Tables 5-2, 5-3, 5-4, and 5-5. Quality assurance/quality control (QA/QC) sample results are discussed in Section 5.2.

5.1.1 Sample Results for Volatile Organic Compounds

No VOCs were detected in any of the environmental sediment samples collected for this SSI. The only VOCs that were detected were laboratory contaminants in the QA/QC samples. These results are discussed in Section 5.2.

5.1.2 Sample Results for Semivolatile Organic Compounds

Bis(2-ethylhexyl)phthalate was the only semivolatile organic compound (SVOC) detected during this SSI. This chemical is most likely a laboratory artifact and not actually present in the creek sediments. Therefore, it is not significant. Table 5-2 presents the samples that contained this SVOC.

5.1.3 Sample Results for Inorganic Compounds

5.1.3.1 Soap Creek

Analysis of Soap Creek sediments revealed the presence of the following six analytes at concentrations at least three times greater than concentrations in the background Soap Creek sediment sample (CA01) (Table 5-3): arsenic, barium, beryllium, cobalt, lead, and manganese. Of these analytes, lead was the most frequently detected and was found in seven of the eight on-site sediment sample locations in concentrations ranging to 4.2 mg/kg (in sample CA10). Arsenic was detected in sample CA08 at 4.9 mg/kg and in sample CA10 at 6.8 mg/kg. Sample CA10, which represented the sample collection location closest to Highway 99W, also contained all the other analytes tested for, except selenium. It is likely that the sample results from CA10 reflect the impact from traffic on Highway 99W. Analytes with the highest concentrations in CA10 included barium at 318 mg/kg, beryllium at 1.1 mg/kg, cobalt at 184 mg/kg, and manganese at 5,740 mg/kg.

The results reported in sample CA10 are not attributable to activities conducted at Camp Adair due to the influence from traffic on Highway 99W. Therefore, only two analytes (arsenic and lead) were reported in Soap Creek at concentrations significantly above background. However, the arsenic and lead values reported in the Soap Creek background sample do not correlate with the background values reported for the other three creeks. Arsenic was reported in Soap Creek at a background concentration of 0.99 mg/kg and the other creeks reported 3.6 mg/kg to 5.9 mg/kg arsenic. Lead was reported in Soap Creek at a background concentration of 0.41 mg/kg and the other

Table 5-2 Semivolatile Organic Compounds in Sediments

Analyte	Background Peterson Creek Sediment CA23 (μg/kg)	Background Berry Creek Sediments CA03 (µg/kg)					Berry Creek Sediments CA16 (µg/kg)
bis(2-Ethylhexyl)phthalate	56J	85 J	80 J	92 J	97 J	88 J	56 J

Analyte	Background Soap Creek Sediments CA01 (µg/kg)	Soap Creek Sediments CA04 (µg/kg)			Soap Creek Sediments CA07 (µg/kg)				Soap Creek Sediments CA21 (Duplicate of CA05) (µg/kg)
bis(2-Ethylhexyl)phthalate	51 J	590 U	630 U	590 U	540 U	530 U	530 U	NA	72 J

Analyte	Background Staats Creek Sediments CA02 (µg/kg)	Stants Creek Sediments CA17 (µg/kg)	Staats Creek Sediments CA18 (µg/kg)	Staats Creek Sediments CA19 (µg/kg)	Staats Creek Sediments CA22 (Duplicate of CA18) (µg/kg)
bis(2-Ethylhexyl)phthalate	940 U	71 J	700 U	620 U	100 J

J Value is an estimate

μg/kg Micrograms per kilogram

NA Not analyzed

Table 5-3 Inorganics in Soap Creek Sediments

Analyte	Background Sonp Creek Sediments CA01 (mg/kg)	Soap Creek Sediments CA04 (mg/kg)	Soap Creek Sediments CA05 (mg/kg)	Soap Creek Sediments CA06 (mg/kg)	Soap Creek Sediments CA07 (mg/kg)	Soup Creek Sediments CA08 (mg/kg)	Soap Creek Sediments CA09 (mg/kg)	Soap Creek Sediments CA10 (mg/kg)	Soap Creek Sediments CA21 (Duplicate of CA05) (mg/kg)
Antimony	7.5 UJ	12.7 J	11.6 J	9.3 J	13.6 J	8.8 UJ	9.6 J	9.4 UJ	11.5 J
Arsenic	0.99	0.89 U	2.1	2.7	1.9	4.9	2.7	6.8 J	1.5
Barium	93.4	132	143	142	154	247	161	318	134
Beryllium	0.52 U	0.67 U	0.84 U	0.61 U	0.90 U	0.93 U	0.83 U	1,1	1.1 U
Chromium	126	171	203	94.8	184	151	145	142	207
Cobalt	58.9	92.1	92.7	69.2	91.9	116	80.8	184	90.2
Copper	76.2	82.1	106	69.2	94.7	91.1	73.6	84.2	118
Lead	0.41	1.0	1.5	2.7	2.3	2.7	2.3	4.2	1.5
Manganese	1,520	2,150	2,290	2,100	2,370	3,300	2,190	5,740	2,190
Nickel	73.4	76.6	79.6	50.0	74.8	84.5	62.7	81.4	82.8
Selenium	0.54 J	0.31	0.39 U	0.85 J	1.3	1.2	0.71 J	2.1	1.2 J
Vanadium	192	275	327	182	311	277	276	348	340

Bolded values represent significant concentrations

J Value is an estimate

Table 5-5
Inorganics in Berry Creek Sediments

Analyte	Background Peterson Creek Sediments CA23 (mg/kg)	Background Berry Creek Sediments CA03 (mg/kg)	Berry Creek Sediments CA12 (mg/kg)	Berry Creek Sediments CA13 (mg/kg)	Berry Creek Sediments CA14 (mg/kg)	Berry Creek Sediments CA15 (mg/kg)	Berry Creek Sediments CA16 (mg/kg)
Antimony	8.6 U	10.3 UJ	9.6 J	11.1 UJ	10.0 UJ	10.5 J	8.0 UJ
Arsenic	5.9	3.6	12.0 J	1.9 J	11.5 J	18.0 J	7.1
Barium	95.3	283	223	239	239	172	214
Beryllium	0.68 U	1.2	1.2 U	1.4	1.4 U	0.89 U	0.76 U
Cadmium	1.1	1.3 U	1.2 U	1.4 U	1.2 U	1.0 U	0.98 U
Chromium	17.2	126	104	109	112	148	36.4
Cobalt	17	73.6	79.8	79.0	84.0	91.8	29.9
Copper	14.7	99.6	116	104	104	81.3	29.8
Lead	7.9	3.7	6.4 J	8.6	16.5 J	4.0 J	10.3
Manganese	710	2,640	2,460	2,370	2,440	2,460	1,970
Mercury	0.16	0.18 U	0.17 U	0.20 U	0.18 UJ	0.22 J	0.14 U
Nickel	5.4	54.1	55.7	49.8	50.5	70.9	27.8
Selenium	0.31	2.6	1.4 J	1.2 J	1.1 J	1.3 J	0.29 J
Thallium	0.59	0.70 U	0.65 U	0.76 U	0.68 U	0.58 U	0.55 U
Vanadium	57.9	282	272	298	306	293	96.9

J Value is an estimate

Table 5-4
Inorganics in Staats Creek Sediments

Analyte	Background Staats Creek Sediments CA02 (mg/kg)	Staats Creek Sediments CA17 (mg/kg)	Staats Creek Sediments CA18 (mg/kg)	Staats Creek Sediments CA19 (mg/kg)	Stants Creek Sediments CA22 (Duplicate of CA18) (mg/kg)
Arsenic	5.6	4.9	7.5	6.0	6.0
Barium	277	425	313	246	308
Beryllium	1.3	1.6	1.2 U	0.99 U	1.2
Chromium	64.0	65.1	47.8	36.9	46.4
Cobalt	45.8	46.6	20.3	20.4	21.4
Copper	81.5	68.7	43.6	37.9	44.2
Iron	59,700	83,100	41,600	34,700	42,200
Lead	6.0	17.9	23.7	11.0	13.1
Manganese	1880	2340	721	1220	974
Mercury	0.19 U	0.19 U	0.20 U	0.20 U	0,24
Nickel	40.3	40.8	26.5	25.0	25.65
Selenium	1.7	1.0 J	0.85 J	0.69	0.87 J
Vanadium	188	223	139	95.4	136

Bolded values represent significant concentrations

J Value is an estimate

Table 5-6 Quality Assurance/Quality Control Samples

Analyte	April 9, 1996	April 9, 1996	April 10, 1996	April 10, 1996	April 11, 1996
	Trip Blank	Rinsate	Rinsute	Trip Blank	Trip Blank
	CA26	CA24	CA25	CA27	CA28
	(µg/kg)	(µg/kg)	(μg/kg)	(μg/kg)	(µg/kg)
Chloroform	2 J	2 J	2 J	2 J	2 J

Notes:

Bolded values represent significant concentrations

J Value is an estimate

creeks reported lead at 3.7 mg/kg to 7.9 mg/kg. A more realistic background value for Soap Creek would be the lowest result for the other creeks: arsenic at 3.6 mg/kg and lead at 3.7 mg/kg. Based on comparison of these background values to the Soap Creek arsenic and lead results, no inorganic analytes were reported in Soap Creek at significant concentrations above background.

5.1.3.2 Staats Creek

Lead and mercury were detected at significant concentrations in Staats Creek sediment. Sample CA18, collected where shown on Figure 4-1, contained 23.7 mg/kg lead. This result may be an anomaly due to the value of 13.1 mg/kg lead reported in the collocated duplicate sample CA22. Sample CA22, duplicate of CA18, contained 0.24 mg/kg mercury. The results of the sampling program for Staats Creek sediment are shown in Table 5-4.

5.1.3.3 Berry Creek

No inorganic analytes were detected at significant concentrations in Berry Creek sediment. The results of the sampling program for Berry Creek sediment are shown in Table 5-5.

5.1.4 Sample Results for Ordnance Compounds

No ordnance compounds were detected for this sampling event. Refer to Appendix E for the analytical results.

5.2 QUALITY ASSURANCE/CONTROL SAMPLES

Two equipment rinsate samples (CA24 and CA25) were collected for this SSI by using high-purity, low-conductivity water (HPLC). The VOC contaminant chloroform was detected in CA25 at an estimated concentration of 2 μ g/kg. (See Table 5-6.) However, chloroform was not reported in any on-site samples; therefore, this has not affected the data.

Three trip blanks were collected for this SSI. Although the samples were filled directly from new HPLC bottles, chloroform was detected in all of the samples at an estimated concentration of $2 \mu g/kg$. The trip blanks were produced on separate days. Chloroform was not detected in any of the environmental samples or laboratory method blanks.

Duplicate samples (CA21 and CA22) were collected for this site investigation to evaluate the environmental variability at specific sample locations and the consistency of sample collection. No VOCs or SVOCs were detected in either the duplicates or the environmental samples for these analyses. The results from analyses for ordnance and inorganic compounds generally showed detection of similar compounds with relatively similar chemical concentrations. Sample inhomogeneity may account for the occurrence of elevated nickel in the two duplicates.

Eleven method blanks were analyzed for VOCs. Methylene chloride (a common laboratory contaminant) was detected in all of the method blanks. Acetone, another common laboratory contaminant, was detected in 7 out of the 10 method blanks. One method blank also contained 1,1,2-trichloroethane, bromoform, 1,1,2,2-tetrachlorethane, styrene, and xylene.

Twelve beryllium results and two manganese water results were qualified U due to the presence of these elements in laboratory blanks for metals.

No target compounds were detected in the four laboratory method blanks analyzed for ordnance compounds.

5.3 SUMMARY AND CONCLUSION

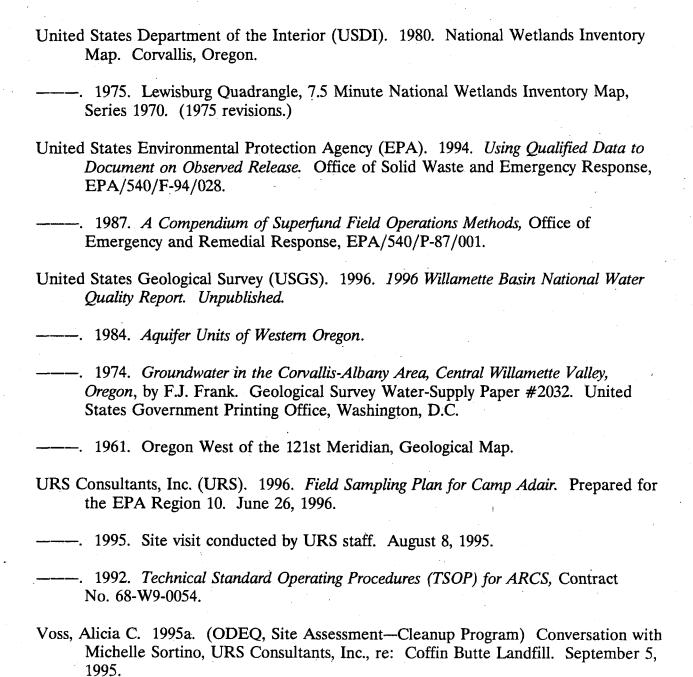
No volatile organic compounds or ordnance compounds were detected in the surface water sediments of the Camp Adair area. The only significant detections for the Camp Adair Site Investigation were inorganics. Most of the elements were detected from Soap Creek, specifically from the sample furthest downstream (CA10), which likely reflects impacts from Highway 99W traffic. Although lead was detected at significant concentrations in seven of eight Soap Creek samples (Table 5-1), the concentrations, which range from 1.0 mg/kg to 4.2 mg/kg, do not appear to be out of the normal range for the area due to the abnormally low background value for Soap Creek. The same is true for the other elements which were detected at significant concentrations. The background concentration for lead in Soap Creek was 0.41 mg/kg. However, the background concentration for lead in Staats Creek and Berry Creek was 6 mg/kg and 7.9 mg/kg, respectively. Staats Creek had the highest lead concentration at 23.7 mg/kg (CA18). However, this appears to be an anomaly, as the duplicate of this sample (CA22) had a lead concentration of 13.1 mg/kg (CA18). The USGS has conducted sampling of stream sediments in the Willamette River Valley to determine background concentrations for lead. The background concentrations for Fir Creek, a pristine area, in the Bull Run Watershed is 6.0 mg/kg. By comparison, the most contaminated creeks in

the Willamette Valley have lead concentrations of 95 mg/kg (Amazon Creek) and 140 mg/kg (A-3 channel—a tributary of Amazon Creek) (USGS 1996). These concentrations are 4 to 6 times higher than the maximum lead concentration reported in the Camp Adair results (CA18).

Based on analytical results for this site investigation, historical Department of Defense operations at Camp Adair apparently have not adversely affected the sediment chemistry of Soap, Berry, or Staats creeks.

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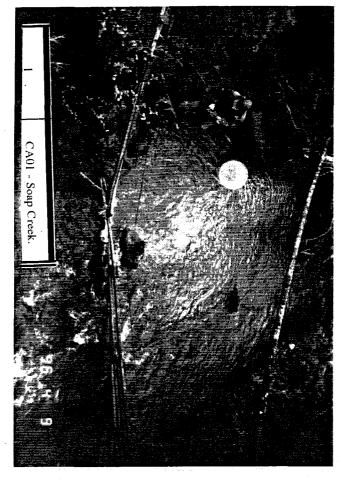
APPENDIX A SAMPLING PHOTODOCUMENTATION—APRIL 9, 10, AND 11, 1996

URS CONSULTANTS ARCS Photograph Log

DCL # 41627650.41

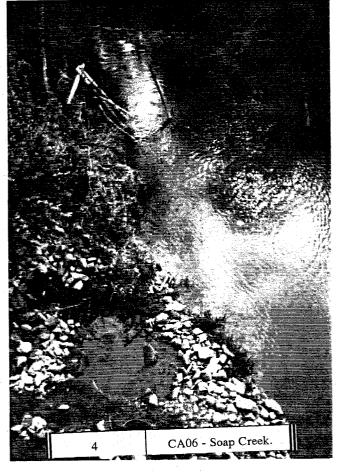
Project Number 4162760.41	Project/Site Name Camp Adair	Photographer:	Jeff Kesner	
Camera Type Canon 35 mm	Film Type/Speed Fuji	Roll Number	Date: April 9, 1	0, 11, 1996
Frame	Date	Time	Orientation	Subject
. 1	4/9/96	14:20	Down	CA01 - Soap Creek.
2	4/9/96	15:13	Down	CA04 - Soap Creek.
3	4/9/96	15:46	Down	CA05, CA21 - Soap Creek.
4	4/9/96	16:25	Down	CA06 - Soap Creek.
5	4/9/96	17:24	Down	CA07 - Soap Creek.
6	4/9/96	17:31	Е	Coffin Butte Landfill relative to CA07.
7	4/9/96	17:34	N	Soap Creek typical topography, fauna at CA07.
8	4/9/96	18:07	N	CA09.
9	4/10/96	11:12	Down	CA08 - Soap Creek.
10	4/10/96	12:15	Down	CA10 - Soap Creek
11	4/10/96	12:39	E	Berry Creek Bed Highway 99W in background.
12	4/10/96	12:39	Down	CA16.
13	4/10/96	13:09	Down	CA23.
14	4/10/96	13:44	Е	CA11.
15	4/10/96	14:42	Е	CA17.
16	4/10/96	15:25	Е	CA02.
17	4/10/96	16:10	N	CA18.
. 18	4/10/96	16:50	Е	CA19.
19	4/11/96	10:45	sw	CA03

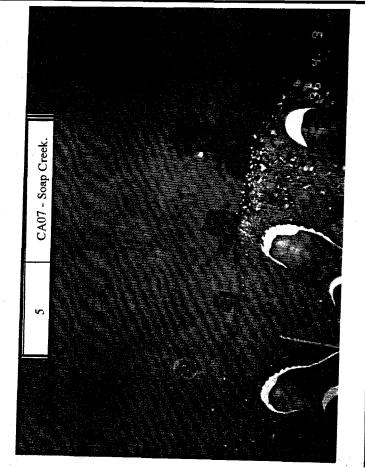
Frame	Date	Time	Orientation	Subject
20	4/11/96	12:50	Down	CA15.
21	4/11/96	12:55	Down	Pool at CA15.
22	4/11/96	14:00	Down	CA12.
23	4/11/96	14:44	Down	CA13.
24	4/11/96	14:45	sw	Berry Creek at CA13

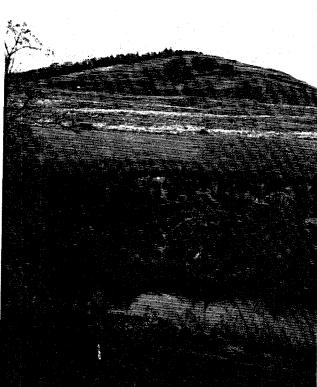






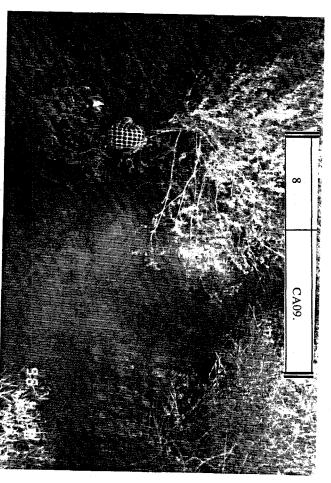


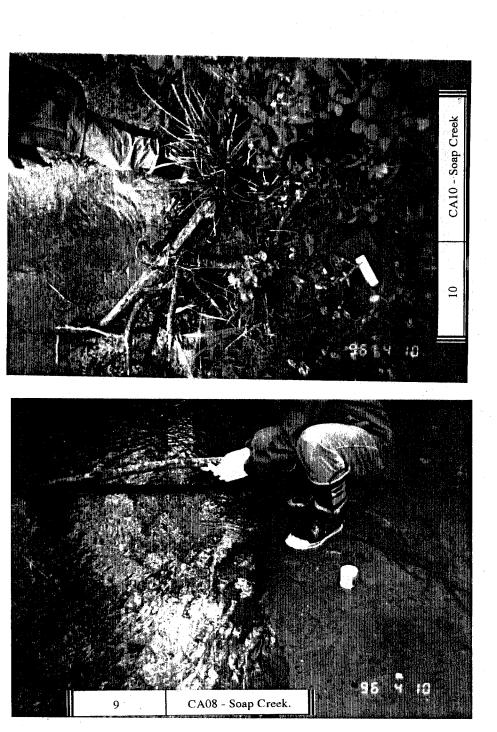




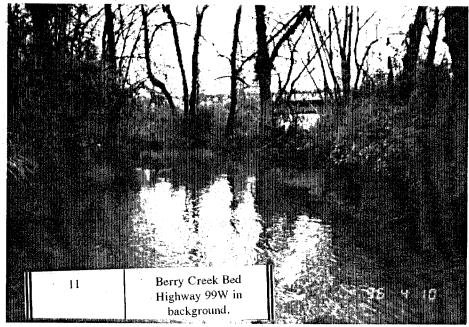
Coffin Butte Landfill relative to CA07.

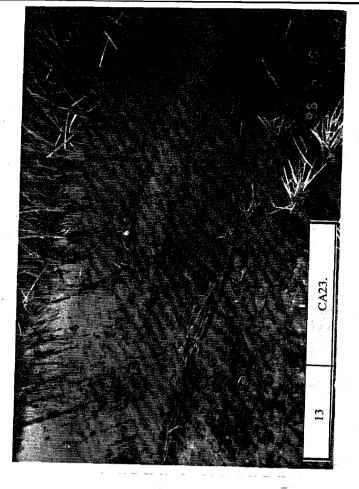




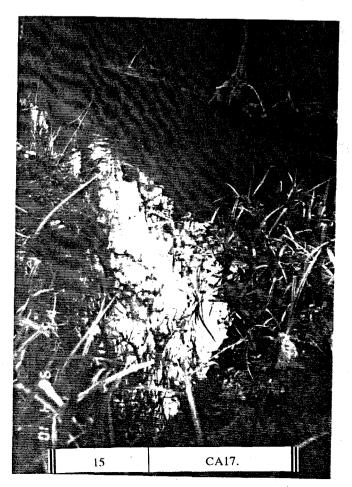




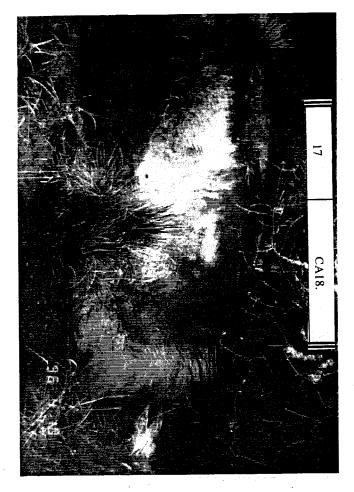




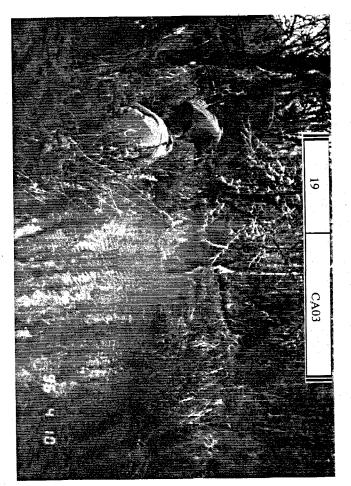


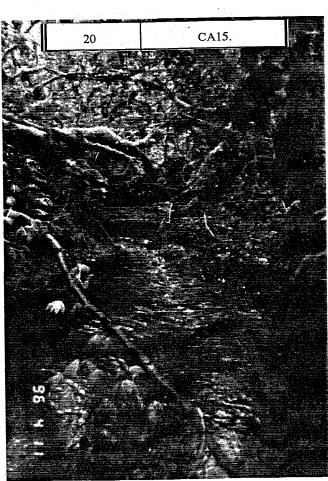


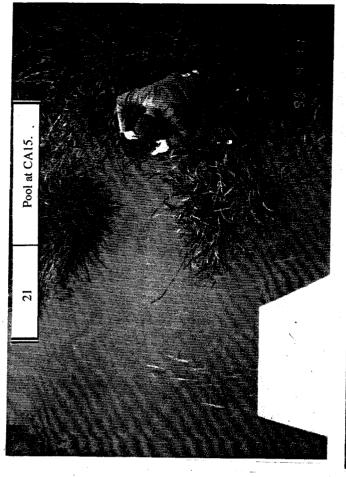


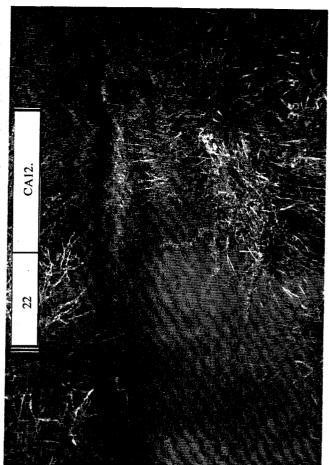


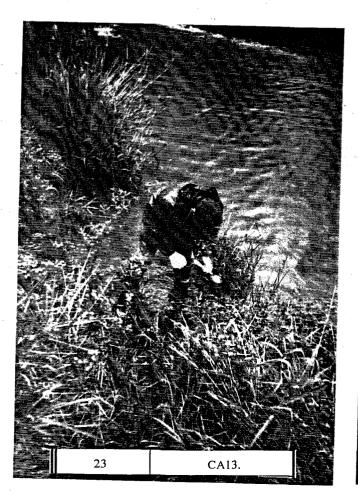














APPENDIX B
NET PRECIPITATION CALCULATION

URS CONSULTANTS, INC.

Calculation for Net Precipitation

Date: 08/31/95

Individual entering data: Temperature data in C or F: Michelle Sortino

Site: Camp Adair Latitude: 44 36" 00" N

Longitude: 123 12 00 W

Data in Temperature (D) or Evap. (E): >Latitude (50,45,40,35,30,20,10,0):

45.00

Data checked by: Date calculation checked: J. Keener 08/31/95

(Fill in only the shaded spaces)

Monthly Variables: Enter what is available

Month Degree (C or F) Precipitation Evaporation 39 30 6.82 Jan 42.60 5.04 Feb March 45.00 4.55 April 49.30 2,56 54.60 1.95 May 60.90 1.23 June 0.52 July 65.60 66.20 0.87 Aug Sept 61.60 1.51 53.00 Oct Nov 45.10 6.82 Dec 39.80 7.72

Calculated Variables

Variable T	Variable I
4.06	0.73
6.00	1.32
7.78	1.96
9.61	2.71
12.56	4.07
16.06	5.92
18.67	7.45
19.00	7.65
16.44	6.14
11.67	3.64
7.28	1.77
4.33	0.80

Difference Variables

Calculation performed according to HRS Final Rule

 $E(Jan..Dec) = 0.6*F(Jan..Dec)[10T(Jan..Dec)/l]^a$

T(Jan..Dec) = Mean monthly Temperature (Centigrade)

F(Jan..Dec) = Monthly latitude adjusting value

 $I = Sum[T(Jan..Dec)/5] ^ 1.514$

(40 CFR Part 300), Section 3.1.2.2 using the following formula:

Net Precipitation = Monthly Precipitation - Evapotranspiration (E)

E(Jan..Dec) = Monthly potential evapotranspiration, if E<0 then E=0 is used

 $a = 6.75*(10^-7)*(1^3)-7.71*(10^-5)*(1^2)+1.79*(10^-2)*1+0.49239$

Variable F	Variable E
0.80	0.44
0.81	0.69
1.02	1.16
1.13	1.64
1.28	2.52
1.29	3.35
1.31	4.04
1.21	3.81
1.04	2.78
0.94	1.70
0.79	0.84
0.75	0.44

Variables:

Precip-Evap.	Positive P-E
6.38	6.38
4.35	4.35
3.39	3.39
0.92	0.92
-0.57	0.00
-2.12	0.00
-3.52	0.00
-2.94	0.00
-1.27	0.00
1.41	1.41
5.98	5.98
7.28	7.28

Average Annual Precipitation

42.70 inches

Total I Variable a 7902.46 44.15

NET PRECIPITATION =

29.72 INCHES

TOTAL 29.72

APPENDIX C WELL LOGS

9/4W-28 JAN 1 () 1951 STATE ENGIN

GROUND WATER BRANCH P. O. Box 3418, Portland 8, Oregon

SALEM. OREG In the Becaracat of syntal wave director for somethed, fight new another and alles asked unlectioned has need unitative find some helpful intermetion. It can probably be obtained itse your downty agent or free the investation cop of courtedaminy 8, 1952

Suchington, D. C. Mr. H. W. Fickel and Son

Line Commence of the Commence

Independences (Oragona series i la spraguesió hesas music sus estálidades logis s and coursely because in the arm on it is been been been a

Dear Sirs:

In regard to your January 7 letter asking for information on the ground water conditions in the Luckiamute River flood plain just north of Davidson Bridge, in sec. 25. T. 98. : Apolitically yours,

The flood plain of the Villamette and the Luckiamute Rivers and the low terrace lands adjacent to the flock glashmouse underlain by bads sufficiently, clay, and and some gravel. Ended of living hade are almost 100 to 150 feet thick in the central parts of the Millamette Valley and taper dut entirely at the edges of the plains of the tributary rivers. At the north edge of the Incklampte flood plain where you are drilling, our general information indicates that the alluvium is mostly wilt, and fine sand and is only 25 to 50 feet thick above bedrock.

The bedrock materials of the region underlie the river-laid alluvial deposits. The bedrock materials beneath your well site are believed to consist of a few feet of shale below which sandstone extends to many hundreds of feet.

As to the probable yield of a well penetrating those earth materials - the alluvial materials there are not highly productive and the sandstone bedrock in general does not yield large quantities of water.

In places where the earth formations yield water slowly, special well construction techniques are used. Large diameter wells. with or without gravel envelope, numerous small wells and other devices are practised to obtain as much water as possible from such finegrained materials.

GROUND WATER BRANCH Box 3418 - 623 Post Office Building Portland 8, Oregon

June 18, 1951

DEGEIVED

Mr. R. D. Davis Route 2, Box 25 Monmotth, Oregon

STATE ENGINEER
SALEM. OREGON

Dear Mr. Davis:

In regard to your May 16 request for information on the ground-water data on a site at the northwest corner of will sec. 10, T. 9 S., R. 5 W. This agency collects ground-water information in Oregon in cooperation with the office of the State Engineer.

The tract of land you mention is underlaid by tuffaceous sandstones and siltstones of Upper Eccene age. These strata are generally poor formation in which to seek ground mater as they are in general nonporous or but moderately porous. They were originally deposited under marine conditions and in many places what ground water does occur contains considerable dissolved mineral matter with some calcium chlorides.

However, in places, individual strata do afford small supplies of ground water of fair quality. The strata dip generally northeast at about 10 degrees from the horizontal so that beds penetrated beneath your place would be these outcrapping at the surface a short distance to the southwest.

Since your needs are apparently only those necessary for household supply—5 to 10 gallons a minute sustained capacity is usually ample for one house—it may be that strata present there would afford that amount. If so, the existence of those small supplies are dependent on geological details not covered by the data we have on file. The static level of any ground water developed there would probably be 50 or so feet below the land surface level. Since the presence of fresh water in those beds is dependent upon a past history of natural flushing out of the slaty water, the upper ground water will ordinarily be found lower in dissolved mineral matter.

If I were personally dependent upon constructing a household well there, I would consider the work as exploratory in nature, keep costs to a minimum, commenurate with good well construction, and waid until a well with satisfactory water was secured before basing other financial commitments on well water supply.

Sincerely yours,

R. C. Newcomb, District Geologist

File Original and First Copy with the STATE ENGINEER, SALEM, OREGON

WATER WELL REPORT STATE OF OREGON

1 State Well No. 9/5W- 32

State Permit No.

X	(1) OWNER: A RIPCLIAM	(11) WELL TESTS: Drawdown is amount water level lowered below static level	vel is
	Name LLIVE A DUILLAM	Was a pump test made? 🗌 Yes - 🐰 No If yes, by whom? -	
	Address K L A B C C C C C C C C C	Yield:300-gal./hmwith954t-drawdown-after-	-
	MONMOUTH OREGON	11 11 11	
X	(2) LOCATION OF WELL:	11 01	
	County Owner's number, if any—	Bailer test 300 gal. with 95ft. drawdown after	1 2 h
	25 20 5111	Artesian flow g.p.m. Date	
	Bearing and distance from section or subdivision corner	Temperature of water Was a chemical analysis made?	Yes 📋
	Bearing and distance from section of subdivision corner	(40)	
	· · · · · · · · · · · · · · · · · · ·	(12) WELL LOG: Diameter of well	_
		Depth drilled 105ft. Depth of completed well	105
		Formation: Describe by color, character, size of material and str show thickness of aquifers and the kind and nature of the mate	rial in ea
		stratum penetrated, with at least one entry for each change of	formatic
		MATERIAL FROM	TO
	(3) TYPE OF WORK (check):	top soil 0	1
	New Well Deepening □ Reconditioning □ Abandon □	brown clay	30
	If abandonment, describe material and procedure in Item 11.	blue shale 30	60
		sand stone 60	62
	PROPOSED USE (check): (5) TYPE OF WELL:	blue shale 62	105
	Domestic X Industrial Municipal Rotary Driven Cable A Jetted		
	Irrigation Test Well Other Dug Bored		
			7
. •	(6) CASING INSTALLED: Threaded Welded		
	6" "Diam. from 0 ft. to 47 ft. Gage 3/16"		
	Tt. Gage ft. Gage		1
	ft. Gage		
	(E) PERSONATIONS		1
	(7) PERFORATIONS: Perforated? ▼ Yes □ No		1
	Type of perforator used cutting torch		1
	SIZE of perforations 3/16in. by 8in. 6 perforations from 39 ft. to 43 ft.		1
	perforations from ft. to ft.		+
	perforations from ft. to ft.	-	+
	perforations from ft. to ft.		+
	perforations from ft. to ft.		
	(8) SCREENS: Well screen installed □ Yes □ No		1
	•		
	Manufacturer's Name Model No.		+
/	Diam Slot size Set from ft. to ft.	·	+
	Slot size Set from ft. to ft.		
	Slot size	Work started April 4, 19 60 Completed April 9.	19
	(9) CONSTRUCTION:	(13) PUMP:	
	Was well gravel packed? W Yes No Size of gravel: peagravel.	Manufacturer's Name	
	Gravel placed from 0 ft. to 47 ft.	Type: H.P.	
X -	Was a surface seal provided? Yes □ No To what depth? ft.	Type:	
••	Material used in seal—	Well Driller's Statement:	
	Did any strata contain unusable water? Yes No	This well was drilled under my jurisdiction and this	s report
	Type of water? Depth of strata	true to the best of my knowledge and belief.	
	Method of sealing strata off	Ant Clinton	
		NAME Art Clinton (Person, firm, or corporation) (Type or pr	int)
	(10) WATER LEVELS:	Address Rt. 1, Box 2, Independence, Or	
	Static level 10 ft. below land surface Date April 5		<u></u>
	Artesian pressure lbs. per square inch Date	Driller's well number	
	Log Accepted by://///	[Signed] (Well Driller)	
	[Signed] Will Sull Wate 11 April 19 kt	[Signed] (Well Driller)	********
	[Signed] Lift (Owner) 19.4.2	License No. 14 Date April 11,	19.6
	<i>3</i>	- · · · · · · · · · · · · · · · · · · ·	

41.1.1.2	DUVE 01
First Copy with the	F OREGON State Well No. 15W-32
SALEM OREGON	State Permit No.
(1) OWNER: Name (rulle Thitaker	(11) WELL TESTS: Drawdown is amount water level is lowered below static level Was a pump test made? Yes No It yes, by whom?
Address Pt 136x 203	Yield: gal./min. with ft. drawdown after
nounous 104	" " " " " " " " " " " " " " " " " " "
(2) LOCATION OF WELL:	Bailer test /
County Owner's number, if sny—	Artesian flow g.p.m. Date
1/4 1/4 Section 3.2 T. 9 R. 9 W.M. Bearing and distance from section or subdivision corner	Temperature of water Was a chemical analysis made? Yes
1. m by seed of	(12) WELL LOG: Diameter of well inc
	Depth drilled 40 ft. Depth of completed well
1 mi S of Merlee	Formation: Describe by color, character, size of material and structure, show thickness of aquifers and the kind and nature of the material in e stratum penetrated, with at least one entry for each change of format
	MATERIAL FROM TO
(3) TYPE OF WORK (check):	7'01
New Well Deepening Reconditioning Abandon	10p Scil 0 1
If abandonment, describe material and procedure in Item 11.	
PROPOSED USE (check): (5) TYPE OF WELL:	proun Clay 12.
Domestic V Industrial Municipal Rotary Driven	Blue Shale 25 4
Irrigation Test Well Other Dug Bored	Dice Shale RS Fi
(6) CASING INSTALLED: Threaded Welded	
"Diam from tt. to tt. Gage 116	
"Diam. fromft. toft. Gage	
]
(7) PERFORATIONS: Perforated? X Yes No Type of perforator used Cutting Torch	
SIZE of perforations 3/1/4 in. by 6 in.	
perforations fromft. toft.	
30 perforations from 12 ft to 40 ft	
perforations fromft toft	
perforations fromft toft.	
() SCREENS: Well screen installed Tyes No	
Manufacturer's Name Type Model No	
Diam. Slot size Set from ft. to ft.	
.i. Slot size Set from ft. to ft.	Work started Delies 17 1957 Completed Schie 2095
(9) CONSTRUCTION:	
Was well gravel packed? Yes No Size of gravel: 2 Cuched	(13) PUMP: Manufacturer's Name Peerless
Gravel placed fromft. toft.	Manufacturer's Name FCEP/C 3.3 Type: JET H.P.
Was a surface seal provided? Yes No To what depth?ft.	Well Driller's Statement:
Did any strata contain unusable water? Yes No	This well was drilled under my jurisdiction and this report
Type of water? Depth of strata	true to the best of my knowledge and belief.
Method of sealing strata off	NAME AIT (-11) Tan
(10) WATER LEVELS: Static level	Address RC, Box 2 Thuloponden
Artesian pressure lbs. per square inch Date	Driller's well number
	C $+$ 0 V $+$
Log Accepted by:	(Signed) (Weil Driller)
[Signed New 1 by the laker Date J / 7 195]	License No. 14 Date July 2. 4 19

STATE ENGINEER WATER WELL REPORT

11036 9/511-3	2
State Well No. 3W	

File Original and First Copy with the STATE ENGINEER, SALEM, OREGON SALEM, OREGON	iveer w		LL REPORT FOREGON	State Well No	5W -3	
(1) OWNER;	ter		(11) WELL TES Was a pump test made	lowered below static	water level	l is
monmouth, a	cecuro	<u> </u>	Yield: gs	al./min. with ft. drawdo	wn after	
	ber, if any—		Bailer test 400 ga	1./nft/ft with ft. drawdo	wn after	1/2
1/4 1/4 Section T. Bearing and distance from section or subdivision	R. p corner	W.M.	Temperature of water		nade? 🔲 Y	es 🔏
two hundred feet sixty feet west	inl	at 10	(12) WELL LOC	60st. Depth of completed	well	60
Tirlie.	arun 2		Formation: Describe to show thickness of aquistratum penetrated, w	by color, character, size of mater ifers and the kind and nature of ith at least one entry for each	ial and struct the materic change of f	cture, al in e format
				MATERIAL	FROM	то
(3) TYPE OF WORK (check):		·	- 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	C (10 aug	+-	<u> </u>
New Well Deepening Reconding Reconding If abandonment, describe material and procedure	itioning 🗌 re in Item 11.	Abandon 🗆	Medical	cay	0	بحر
	(5) TYPE OF	F WELL:	leve	Shale	30	6
Domestic Industrial Municipal	Rotary 🔲	Driven 🗆		·	-	
Irrigation Test Well Other		Jetted Bored			-	
	eaded Weld					
Diam. from ft. to	, ,	* 1 / 1 /		508		
ft. to	ft. Gag	e				
· · · · · · · · · · · · · · · · · · ·	orated XYes	/ No				
SIZE of perforations	- Arc	n.				
perforations from	ft. to	ft.			-	
perforations from	ft. to	34 "		· .	-	
perforations from perforations from	ft. to	t.				
. perforations from	ft. to	£L				
(8) SCREENS: Well screen ins	stalled 🗆 Ye:	s No				
Manufacturer's Name Type	odel No					
Slot size Set from						
L Slot size Set from	ft, to	ft.	Work started	1. 4 1954 Completed (Cpr-8	<u>7</u> 19
(9) CONSTRUCTION: Was well gravel packed? Yes No Size	of gravel:	"Crushed	7(13) PUMP: Manufacturer's Name	Or a family	M	W
Gravel placed from ft. to ft. to	o what denth?	12 1/dr	Trank Deep 1	well get cs	н.р/	
Material used in seal	3' Lelan	- Auric	Well Driller's States	ment:		
	No	<u>L'</u>	This well was di	rilled under my jurisdiction	and this	repor
Type of water? Depth of s Method of sealing strata off	trata	· · · · · · · · · · · · · · · · · · ·	true to the best of m	ny knowledge and belief.	•	
			NAME (Pers	son, f:rm, or corporation) (Type or prin	
(10) WATER LEVELS: Static level ft. below land s	surface Date (4.7.6	Address 111	1777	م ولم و	<u>, - · · </u>
Artesian pressure lbs. per squar	re inch Date		Driller's well number	er		
Log Accepted by:			[Signed]	(Well Driller)	7	
[Signed] Date		19	License No.	Date 711	y /1	(= _{19.}
	(USE /	ADDITIONAL SH	IEETS IF NECESSARY)	ž ,	IJ	

STATE OF OREGON

WATER WELL REPORT (as required by ORS 537.765)

1 1	126	105/	TW/
9	(START CAR	(D) # 11371	

	(1) OV			•			Well Num	ber:			N OF WELL by			
		Joe 1		valli:	n Dd					County POIK	Latitude	1, 111	Longitud	ie
•				vaiii			OR .	Zip Q	7361	Township 10	S Nor S, Range	4 W		E 01
	(2) TY						71(6		<u> </u>	Section 10	// Lot Blo	•	¼	
						•••	п.,			1				
	(3) DF		Deep METH		Recond	lition	<u> </u>	bandon		14701 B	Well (or nearest address) uena Vista R	dAl	bany	
	Rotary	/ Air	Rot	ary Mud	🔼 c	able.	i			1 ' '	WATER LEVEI			
	Other									13' n	. below land surface.		Date	10-
	(4) PF									Artesian pressure	lb. per so	quare inch.	Date	
	Dome:			nunity 🔲						(11) WATER	BEARING ZON	ES:		
	Thern		Inject							Denth at which water w	as first found 27			
	(5) B(ORE H	OLE	CONST	RUC'	LIOI	N:		44 -	From	To		nated Flow	. P
	Special Co	nstructio	n approvi res No		å	Depth	of Comple	ted Well _	<u>44</u> ft.	27'	401		gpm	/ Rate
	Explosive						Amount .				1 '9	112	8 pm	
		HOLE			SEA	L		A	mount			1		
	Diamete	r From	То	Materi	al i	From	To	sacks	or pounds					
	10"	0	184	cemen	+	0	181	18	sacks	(12) WELL LO	OG: Ground elevs	**		
	6"	18'		OCEO.		.	1-	1 = 0				LION		
							1			Top soil	Material		From	T ₀
	How was	seal place	: Method	1 . 🗆 A	□в	⊠ c	□ D	□ E			& some grav	re1	2	7
										Brown sand		<u></u>	7	19
										Brown clay			19	25
	Gravel pla	ced from		_ft. to	ft.	Size	of gravel _			Brown sand	& gravel		25	32
•	(6) CA		•					•		1 [& gravel		32	38
			Fron	To	Gauge				Threaded	Gray clay			38	41
	Casing:	611	+141	1 371	-280							-	├──	┼─
	_		<u> </u>	10"									 	┢
	_													
	Liner:		<u> </u>											
				701201										
	Final loca	tion of sh	oe(s)	37'10"				, -					 	<u> </u>
				ONS/SC				•			······································			↓ —
		Perforation	ons	Method	Ace	tyle	ene to	orch					+	+-
		Screens		Туре			_ Materia	1					+	+
	From	То	Slot size		Diame		ele/pipe size	Casing	Liner				 	
	-		<u> </u>						ο.			·····	1	\top
27	10"	351	3/		6"			X						
		10"	x12	"	<u> </u>								<u> </u>	—
			+	-										3
			-	- 						Date started 9-2	28 - 89 co	mpleted 1	.0-2-0	<u> </u>
	(8) W	rii 1	PECTO	S: Minim				1 1		(unbonded) Water	Well Constructor C	Certifica	tion:	
						_	time is	Flow	ing	1	the work I performed is well is in complia			
		ump	X	Bailer		Air		☐ Arte	sian	standards. Materials	s used and information			
	Yield p	al/min	Dra	wdown	Dr	ill ste	m at	T	ime	knowledge and belie	f.		WWC Nu	
	72 g	pm	1'					1	hr.	Signed			Date	
	·				ļ									
			L		L		1				'ell Constructor Cernsibility for the const		. *	05 (
	Temperat					* .		Found _		work performed on	this well during the co	onstructio	n dates r	repor
	Was a wa			☐ Yes not suitable				lieste			uring this time is rds. This report is tro			
				onot suitable Odor 🔲 Ćo						belief.			WWC Ni	-
	Depth of									Signed 2	The Alla	11/2-		

The original and first copy of this report are to be filed with the STATE OF OREGON STATE ENGINEER, SALEM, OREGON 97310 within 30 days from the late To State Well Report of well completion. State Well Report State Well Report State Well No. State Well No. State Well No. State Permit Of Well completion.

a) (12	3	/	
State We	п No//	144'	-3
	gro /	, ,	
State Per	mit No	********	

(1) OWNER:	(11) LOCATION OF WELL:		
Name Mr. James E. Rookard	County Polk Driller's well number		
Address Rt.1, Box 7 Independence, Oregon	14 14 Section 3 T. 105	S R. LW v	
Address /48 97351			
(2) TYPE OF WORK (check):	Bearing and distance from section or subdivision	a corner	
New Well ☑ Deepening ☐ Reconditioning ☐ Abandon ☐			
If abandonment, describe material and procedure in Item 12.			
(3) TYPE OF WELL: (4) PROPOSED USE (check):	(12) WELL LOG: Diameter of well b	pelow casingO_	
Rotary 🗗 Driven 🗆 Domestic 🙀 Industrial 🗆 Municipal 🗆	Depth drilled 223 ft. Depth of comple	eted well 223	
Dug Bored Irrigation Test Well Other	Formation: Describe color, texture, grain size		
CASING INSTALLED: Threaded welded	and show thickness and nature of each stratus	m and aquifer penetra	
"Diam. from ft. to ft. Gage ft	with at least one entry for each change of form in position of Static Water Level as drilling pro	ation. Report each cha	
6 "Diam from 1 n above surfaceato			
"Diam from \$223 ft below surfaceage	MATERIAL	From To SW	
Diam. from			
PERFORATIONS: Perforated? [7] Yes [1] No.	Top soil	0 21	
Type of perforator used Cutting torch]		
Size of perforations 2 in. by 8 in.	Brown clay	21 101	
perforations from 153 ft. to 213 ft.	Gray clay	101 131	
perforations fromft. toft.	3lue clay	1/31 71/01	
perforations fromft. toft.			
perforations fromft. toft.	Hard Rock - blue	71:01 71:11:	
(7) SCREENS: Well screen installed? Yes XNo	(water bearing)		
Manufacturer's Name			
Type Model No	Blue_shale	יסו2 יועור	
Diam. Slot size Set from ft, to ft.			
Diam. Slot size Set from ft. to ft.	Hard rock - blue	210 212	
	(water bearing)	 	
(8) WATER LEVEL: Completed well.		 	
Static level 76 ft. below land surface Date 6/16/67	Blue_shale	2121 2231	
A. Jian pressure lbs. per square inch Date			
(9) WELL TESTS: Drawdown is amount water level is			
lowered below static level		 	
Was a pump test made? Yes No If yes, by whom?	Wash stand I am 12 1067 Complete		
Yield: gal./min. with ft. drawdown after hrs.	Work started June 13, 1967 Complete	ed June 17, 1	
<u> </u>	Date well drilling machine moved off of well	June 17, 19	
" " " " "	Drilling Machine Operator's Certification:		
Bailer test 6 gal./min. with 124t. drawdown after 1 hrs.	This well was constructed under my di		
	rials used and information reported above knowledge and belief.	e are true to my	
Artesian flow g.p.m. Date	O i alot		
Temperature of water 50° Was a chemical analysis made? □ Yes ② No	[Signed] (Drilling Machine Operator)	Date $AMAY Q_3$, 19	
(10) CONSTRUCTION:	Drilling Machine Operator's License No	3):	
Well seal-Material used Sontonite & clay	Diffing Machine Operator's License No.		
Depth of seal	Water Well Contractor's Certification:		
Diameter of well bore to bottom of seal	This well was drilled under my jurisd		
Were any loose strata cemented off? [] Yes [] No Depth	true to the best of my knowledge and beli		
Was a drive shoe used? Yes No	NAME ART CLASSICAL SELF DRILL (Person, firm or corporation)	LIVI CO.	
Did any strata contain unusable water? Yes No	1		
Type of water? depth of strata	Address kt. 1, Box 2, Lodepend	ence, oregon	
	[Signed] [Signed] (Water Well Contract		
Method of sealing strata off	[Signed]	ctor)	
Was well gravel packed? Tyes No Size of gravel: Mcrushed	1		
Gravel placed from 18 ft. to 223 ft.	Contractor's License No. 11 Date	941y O, 19	

state engineer, salem, oregon 97310 within 30 days from the date of well completion. SEP - 3 1975

STATE OF OREGON

(Please type or print)
(Do not write above this line)

4110

State	Well No. 103/403-4
State	Permit No

(1) OWNER: WATER RESOURCES DEFT.	(10) LOCATION OF WELL:				
Name H. G. Olsen SALIM, OREGON	County Polk Driller's well nu		11587	5D	
Address Rt. 1, Box 163A	NE 14 SW 14 Section 4 T. 10S	R. 4W			
Monmouth, Oregon 97361	Bearing and distance from section or subdivision	on corner			
(2) TYPE OF WORK (check):					
New Well X Deepening □ Reconditioning □ Abandon □					
If abandonment, describe material and procedure in Item 12.	(11) WATER LEVEL: Completed w	ell.			
(3) TYPE OF WELL: (4) PROPOSED USE (check):	Depth at which water was first found	1	Ó		
Potenty D. Driven D	1.A			21_	
Cable D Jetted D Domestic L industrial D municipal	Diddle 1870.			21-	
Dug Bored Irrigation Test Well Other	Artesian pressure lbs. per square	e inch. I	Date.		
CASING INSTALLED: Threaded □ Welded 6 "Diam from 0 ft to 103 ft Gage • 250 "Diam from ft to ft Gage	(12) WELL LOG: Diameter of well be perfectly described by the diameter of well be perfectly fixed by the perfectly	eted well and struct and aqu	130 ure of m	nater	
PERFORATIONS: Perforated? X Yes No.	position of Static Water Level and indicate princ				
Type of perforator used Mills knife	MATERIAL	From	То	sw	
Size of perforations 1/4XX in. by 2 1/2 in. 60 perforations from 45 ft. to 54 ft. 25 perforations from 24 ft. to 29 ft.	gray top soil	0	2		
60 perforations from 45 ft. to 54 ft. 25 perforations from 24 ft. to 29 ft.	brown clay soil	2	24		
25 perforations from 24 ft. to 29 ft.	light gray clay	24	31		
ft. to ft.	dark gray clay	31	39		
(Z) SCREENIS	coarse sand & clay	39	42		
(7) SCREENS: Well screen installed? ☐ Yes 💆 No	fine sand & gravel	42	45		
Manufacturer's Name	sand & gravel-black	45	54		
Type Model No	dark grayish brown clay	54	63	<u> </u>	
Diam Slot size Set from ft. to ft.	dark gray clay & sand	63	75		
Diam. Slot size Set from ft. to ft.	green & gray clay	75	103		
(8) WELL TESTS: Drawdown is amount water level is	light gray clay dark silty clay	103	122		
lowered below static level	udik Silty Clay	122	130		
Was a pump test made? Yes X No If yes, by whom?					
Yield: gal./min. with ft. drawdown after hrs.					
·					
<u> </u>					
BENEAT test 100 gal./min. with 80 ft. drawdown after 2 hrs.				<u> </u>	
Artesian flow g.p.m.					
m-mperature of water 53 Depth artesian flow encountered ft.	Work started 7-28 19 75 Complete	ed 7_	31	15	
(9) CONSTRUCTION:	Date well drilling machine moved off of well	7-	31	15	
Well seal—Material used	Drilling Machine Operator's Certification: This well was constructed under my Materials used and information reported best knowledge and belief. [Signed] (Drilling Machine Operator) Drilling Machine Operator's License No.	direct above a Date	re true		
Brand name of bentonite	Water Well Contractor's Certification:				
Number of pounds of bentonite per 100 gallons	This well was drilled under my jurisd	iction an	d this i	repoi	
of water	true to the best of my knowledge and belief.				
Was a drive shoe used? X Yes No Plugs Size: location ft.	Name Schoen Electric & Pump				
Did any strata contain unusable water? ▼K¥OSX No	(Person, firm or corporation) 626 W. Queen/Ave/A		pe or pri		
Type of water? depth of strata	Address				
Method of sealing strata off Was well gravel packed? El Ves D No. Size of gravel. 2" rock	[Signed amy & Hello				
was wen graver packeur of res [] No Size of graver,	(Water Well Contractor)				
Gravel placed from19 ft. to54 ft.	Contractor's License No513 Date				

STATE OF OREGON AUG2 1974 State Well No. 105 4W-21 CO

(Please type or print) STATE ENGINEER State Permit No. (Do not write above this life A | FM ODECON

STATE ENGINEER, SALEM, OREGON 9731 within 30 days from the date of well completion.

Hulen C. McCary

(2) TYPE OF WORK (check):

Driven 🛚

Bored [

CASING INSTALLED:

perforations from

perforations from perforations from

Jetted

PERFORATIONS:

(3) TYPE OF WELL:

ō

Type of perforator used Size of perforations

(7) SCREENS:

Manufacturer's Name

Diam. Slot size

(8) WELL TESTS:

rerature of water

(9) CONSTRUCTION:

Well seal-Material used

of water?

Well sealed from land surface to

Diameter of well bore to bottom of seal Diameter of well bore below seal

Brand name of bentonite Number of pounds of bentonite per 100 gallons

od of sealing strata off

Number of sacks of cement used in well seal Number of sacks of bentonite used in well seal

Yield:

Bailer test Artesian flow

Star Rt. - Box 272

Deepening [

Mesa, Washington 99343

If abandonment, describe material and procedure in Item 12.

6 "Diam from 0 ft. to 109 ft. Gage -25 " Diam. from ft. to ft. Gage Tit. Gage ft. to ft. Gage

Torch cut

in. by 100

.. Set from ..

10 gal./min. with 35 ft. drawdown after

Depth artesian flow encountered ...

Cement

Size of gravel:

10

18

g.p.m.

as a drive shoe used? Yes No Plugs Size: location

depth of strata

' any strata contain unusable water?
Yes 1 No

ell gravel packed? A Yes No

18

Diam. ____ Slot size ____ Set from ____ ft. to ___

Was a pump test made? [] Yes [] No If yes, by whom?

gal./min. with

20

Well screen installed? 🗌 Yes 💆 No

Model No. .

Drawdown is amount water level is lowered below static level

ft. drawdown after

(1) OWNER:

Name

Dug

Address

New Well

5

Reconditioning []

(4) PROPOSED USE (check

Domestic XX Industrial [] Municip

Threaded | Welded |

Perforated? A Yes No.

Irrigation | Test Well | Other

Abandon

		5774D	
SE % SW % Section 21 T.10S	R. 41	N	
Bearing and distance from section or subdivisi	on corne	r	
(11) WATER LEVEL: Completed w	ell.		
Depth at which water was first found 20			
Static level 8-1/2 ft. below land s	urface.	Dat 2-2	5-7
Artesian pressure lbs. per squar	e inch.	Date	
(12) WELL LOG: Diameter of well it	nelow cer	ein a	611
Depth drilled 120 ft. Depth of compl			
Formation: Describe color, texture, grain size	and struc	ture of r	mate
and show thickness and nature of each stratus with at least one entry for each change of forma			
position of Static Water Level and indicate prin			
MATERIAL	From	To	ST
Topsoil	0	3	
Clay, sandy, brown	3	15	8
Sand, brown-med. grain-water	15	1.8	
Clay, blue-sandy cemented	18	33	
Streak of gravel & red sand	33	34	
Clay-gray & sandy	34	53	
Blue clay	53	64	
Brown silt	64	85	<u> </u>
Green clay	85	98	<u> </u>
Claystone-soft W/dark green	98	111	<u> </u>
Clay-soft gray-	111	119	L_
Clay-gray & blue	119	121	<u> </u>
			-
		}	-
		 	┼─
		 	┼─
	 	 	一
			\vdash
Work started 7-11-21, 19 Complet	ad 7	7-25	
	7-	-25	
Date well drilling machine moved off of well			
Drilling Machine Operator's Certification:			
This well was constructed under my Materials used and information reported best knowledge and belief.			
[Signed] Jan Manua (Drilling Machine Operator)	Date &	ig I	···,
Drilling Machine Operator's License No.		0 / B	
Water Well Contractor's Certification:			
This well was drilled under my jurisd	iction a	nd this	re
true to the best of my knowledge and be Scheon Electric & Pump	neI.		
Name (Person, firm or corporation)	T)	'ype or pr	int
Address 626 W. Queen St. Alba	M		
[Signed] Survey E Mater Well Cont	ractor		•••

9-108-12	AND AND VANA	Me iller
	OREGON TO THE State Well No.	105/4W-c
STATE ENGINEER, SALEM, OREGON 97310 (Please type within 30 days from the date	or print) State Permit N	Bento
of well completion. (Do not write at	pove this line)	
	T T	Lo.
(1) OWNER:	(10) LOCATION OF WELL:	112/11/
Name Dich Draphy	County ding. Driller's well nu	imber 72/6/1
Address 3955 5 E HO Sh alkany one	5° W 14 N W4 Section 2 (T. 10 S	R. 466- W
(a) my my on wong (I I I)	Bearing and distance from section or subdivision	on corner
(2) TYPE OF WORK (check):		
New Well Deepening Reconditioning Abandon		
If abandonment, describe material and procedure in Item 12.	(11) WATER LEVEL: Completed w	ell.
(3) TYPE OF WELL: (4) PROPOSED USE (check):	Depth at which water was first found	5-0
Rotary Driven Domestic Industrial Municipal Domestic	Static level & ft. below land s	urface. Date /C/ 7/
Dug Bored Irrigation Test Well Other	Artesian pressure lbs. per squar	e inch. Date
CASING INSTALLED: Threaded Welded	(40) YIMT T YOU	- /
E Diam from the to 29 ft. Gage 1250	(12) WELL LOG: Diameter of well b	
"Diam from ft. to ft. Gage	Depth drilled 12 4 ft. Depth of compl	eted well 124
"Diam. fromft. toft. Gage	Formation: Describe color, texture, grain size a and show thickness and nature of each stratur	
	with at least one entry for each change of format	tion. Report each change
PERFORATIONS: Perforated? Yes No.	position of Static Water Level and indicate prin	cipal water-bearing strat
Type of perforator used	MATERIAL	From To SWL
Size of perforations in. by in.	ty fact	0 4
ft.	Sind + Smil clay.	4 10
perforations from ft. to ft.	Boulder	10 13
perforations from ft. to ft.	the short Bowlets	13 17
(7) SCREENS: Well screen installed? Tyes 19 No	ali store tofe	25 25
(1) SUREENS: Well screen installed? Yes Woo	Elly Starl	3/ 37
Type Model No.	The state of the s	37 100
Diam. Slot size Set from ft. to ft.	By Plant	100 105
Diam. Slot size Set from ft. to ft.	alay that Band	10 (120
	Bater Landy class	120 124
(8) WELL TESTS: Drawdown is amount water level is lowered below static level	7 4	
Was a pump test made? Yes No If yes, by whom?		
Yield: gal./min. with ft. drawdown after hrs.		
* * * * * * * * * * * * * * * * * * * *		
,, w		
Bailer test /0 gal./min. with 52 ft. drawdown after / hrs.		
Artesian flow g.p.m.		
merature of water 53 Depth artesian flow encountered	16//7/2	10/4/ 107
	Work started 16 / 6 / 7 (: 19 Complete Date well drilling machine moved off of well	ed /0 / 7 / 19 / 19 /
(9) CONSTRUCTION:		
Well seal-Material used conduct	Drilling Machine Operator's Certification:	
Well scaled from land surface to	This well was constructed under my Materials used and information reported	
Diameter of well bore to bottom of seal	best knowledge and belief.	1.110/ 2
Diameter of well bore below seal	[Signed] Boh SCHELER (Drilling Machine Operator)	Date 10/
Number of sacks of cement used in well seal sacks	Drilling Machine Operator's License No.	EJ 1 G'
Number of sacks of bentonite used in well seal		
Brand name of bentonite	Water Well Contractor's Certification:	
of water	This well was drilled under my jurisd	
Was a drive shoe used? Pes No Plugs Size; location ft.	true to the best of my knowledge and be	ilet.
Did any strata contain unusable water? Yes No	Name 8 cb Sc A FLER WELL D	(Type or print)
Type of water? depth of strata	Address 405 N Burkhart	albumy one
Method of sealing strata off	1 0 V Do Co ~	
	[Signed] (Water Well Cont	ractor)
	Contractor's License No. 6.4. Date	
Gravel placed from	Contractor's License No	, 19.3

WATER WELL REPORT STATE OF OREGON

RECEIVED.

DE(:301980

BONT State Well No. 105 HW- C
State Permit No.

WATER RESOURCES DEPT SALEM OREGON

1) OWNER:	(10) LOCATION OF WELL:		
Name Milo Merrill	County Benton Driller's well number 10		
Address 9365 N.W. Tampico Rd.	4 4 Section 19 TlOS R 4W		
City Corvallis State Or.	Tax Lot # Lot Blk Subdivision		
(2) TYPE OF WORK (check):	Address at well location:		
New Well Deepening Reconditioning Abandon Reconditioning Abandon Reconditioning R	(11) WATER LEVEL: Completed well.		
	Depth at which water was first found 556		
(3) TYPE OF WELL: (4) PROPOSED USE (check):	Static level 35 ft. below land surface. Date 12/		
/Air ★★ Driven □ Domestic ★★XIndustrial □ Municipal □ Receive Mud □ Dug □ Irrigation □ Test Well □ Other □	Artesian pressure lbs. per square inch. Date		
Rozary Mud Dug Irrigation Test Well Other Cable Bored Thermal: Withdrawal Reinjection	(12) WELL LOG: Diameter of well below casing		
(E) CASING INSTALLED.	Depth drilled 564 ft. Depth of completed well 56		
(5) CASING INSTALLED: Steel ☐ Plastic ☐ Threaded ☐ Welded ♡X	Formation: Describe color, texture, grain size and structure of materials; and		
6. "Diam from 0 ft to 20 ft Gauge 250	thickness and nature of each stratum and aquifer penetrated, with at least one for each change of formation. Report each change in position of Static Water		
"Diam from ft. to ft. Gauge	and indicate principal water-bearing strata.		
LINER INSTALLED:	MATERIAL From To S		
	brown clay & grit 0 4		
(6) PERFORATIONS: Perforated? Yes XX No	brown clay 4 10		
(6) PERFURATIONS: Perforated? Yes XIX No	red clay & grit 10 14		
Size of perforations in. by in.	broken hd gray sandstone 14 17		
perforations fromft. toft.	hd gray sandstone 17 50		
perforations fromft. toft.	blk basalt 50 160		
	gray basalt & white qtz 160 270		
(7) SCREENS: Well screen installed? Yes XDNo	blk basalt & white qtz 270 325		
Manufacturer's Name	gray baselt & white		
Type Model No.	limestone 465 530		
Diam. Slot Size Set from ft. to ft.	gray basalt & white qtz		
Diam. Slot Size Set from ft. to ft.	broken baring 30 gpm 530 564		
WELL TESTS: Drawdown is amount water level is lowered			
below static level			
Was a pump test made? ☐ Yes ☑ No If yes, by whom?			
Yield: gal/min. with ft. drawdown after hrs.			
20 550 2			
Air test 30 gal./min. with drill stem at 559 ft. 2 hrs.			
er test gal./min. with ft. drawdown after hrs.			
Artesian flow g.p.m. Temperature of water 52 Depth artesian flow encountered			
	Work started 12/10/1980 Completed 12/12/		
(9) CONSTRUCTION: Special standards: Yes ロ Noな	Date well drilling machine moved off of well 12/12/		
Well seal—Material used CE 19	Drilling Machine Operator's Certification:		
Well sealed from land surface to 19 ft. Diameter of well bore to bottom of seal 10 in.	This well was constructed under my direct supervision. Materia and information reported above are true to my best knowledge and		
Diameter of well bore below seal	[Signed] (Drilling Machine Operator) Date 12/29;		
Number of sacks of cement used in well seal 8 sacks	(Drilling Machine Operator)		
How was cement grout placed? Dressure	Drilling Machine Operator's License No50.3		
	Water Well Contractor's Certification:		
	This well was drilled under my jurisdiction and this report is		
Was pump installed?	the best of my knowledge and belief. NameRaymond C. Wellatly & Ronald 3. wit		
Was a drive shoe used? ☐ Yes X No Plugs	(Person, firm or corporation) (Type or pri		
Did any strata contain unusable water?	Address P.C. Box 1, Philomoth, Gr.		
Type of Water? depth of strata	[Signed] My Cold Chillast		
Method of sealing strata off Was well gravel packed? □ Yes ☑ No Size of gravel:	(Waker Well Contractor)		
Gravel placed from ft. to ft.	Contractor's License No		

are to be filed with the

WATER RESOURCES DEPARTMENT.

Bent State Well No. 105/10-

within 30 days from the date of well completion. (Do not write abo	State Permit N	3	· ·		
(1) OWNER:	(10) LOCATION OF WELL:				
Name Milo K. Merrill	County Benton Driller's well number 9				
Address 9365 N.W. Tampico Rd.	34 34 Section 19 T.10s		<u> </u>		
Corvallis Or. 97330			·		
(2) TYPE OF WORK (check):	Bearing and distance from section or subdivision	on corne	r.		
New Well ⚠ Deepening ☐ Reconditioning ☐ Abandon ☐					
If abandonment, describe material and procedure in Item 12.	(11) THAMPS TRYING A 1 1				
	(11) WATER LEVEL: Completed w				
Batany XX Datum D		<u> 25</u>	67. V	70 ×	
Rotary ZX Driven Domestic XIndustrial Municipal Domestic	Static level 73 ft. below land s	urface.	Date [/	97 20	
D. Bored Irrigation Test Well Other	Artesian pressure lbs. per square	e inch.	Date 0/	ر2	
(5) CASING INSTALLED: Threaded Welded 5. 250	Depth drifted / L/ It. Depth of completed well / L/				
	Formation: Describe color, texture, grain size a and show thickness and nature of each strature.	nd struc	ture of a	mate	
(6) PERFORATIONS: Perforated? ☐ Yes IX No.	with at least one entry for each change of format position of Static Water Level and indicate prin	ion. Rep	ort each	cha	
Type of perforator used	MATERIAL	From	To	s	
Size of perforations in. by in.	brown clay & grit	0	4		
ft. to ft.	brown clay & sm.bldrs	4	10		
perforations from ft. to ft.	b roken blk basalt	10	15	L	
perforations from ft. to ft.	hd gray basalt	15	45	_	
(7) SCREENS: Well screen installed? Tyes Tyno	blk basalt & white qtz	45	150	-	
(1) SCREENS: Well screen installed? Yes No	blk basalt	150	265	├	
Type Model No.	broken blk basalt	265	375	├	
Diam. Slot size Set from ft. to ft.	blk basalt & white qtz	375	454	\vdash	
Diam. Slot size Set from ft. to ft.	baring 20 gpm	212	424	\vdash	
(8) WELL TESTS: Drawdown is amount water level is lowered below static level	RECEIVE	D			
a pump test made? XYes \(\sigma\) No If yes, by whom? G&W	1111 3 0 1000		_	\vdash	
Yield: 20 gal./min. with 350ft. drawdown after 2 hrs.	JUL 19 1980			\vdash	
H H H	WATER RESOURCES	DEPT		╁	
" " "	SALEM, OREGON			T	
er test gal./min. with ft. drawdown after hrs.					
Arresian flow g.p.m.					
Temperature of water 52 Depth artesian flow encountered ft.	Work started 6/25/ 1980 Complete	d	6/25	/_	
(9) CONSTRUCTION:	Date well drilling machine moved off of well	6/2	25/		
Well seal—Material used Cement	Drilling Machine Operator's Certification:				
Well sealed from land surface to 18 ft.	This well was constructed under my Materials used and information reported	above	are trù	rvı e t	
Diameter of well bore to bottom of seal 10	best knowledge and belief, / / Lat-				
Diameter of well bore below seal in.	[Signed]	Date	7/.	8/	
Number of sacks of cement used in well seal sacks	[Signed] (Drilling Machine Operator) Date 7/8, (Drilling Machine Operator's License No. 503				
How was cement grout placed? pressure					
	Water Well Contractor's Certification:		•		
	This well was drilled under my jurisd true to the best of my knowledge and bel	iction ai ief.	nd this	rep	
Was a drive shoe used? ☐ Yes XXo Plugs Size: location ft.	Name RaymondC. Gellatly &Ro	nald	3.Wi	t,	
Did any strata contain unusable water? Yes No	(Person, firm or corporation)	(T)	ype or pr	int)	
Type of water? depth of strata	Address P.C. Box 1, Philomet		r. 9/	J _H	
Method of sealing strata off	[Signed] ///My	Sen	HI		
Was well gravel packed? ☐ YesXIX No Size of gravel:	[Signed] / / (Water Well Control	actor)		•••	
Gravel placed from ft. to ft.	Contractor's License No	······································	7/8/	,	
(USE ADDITIONAL SHI	EETS IF NECESSARY)		S	5p.	

File Original and First Copy with the STATE ENGINEER, SALEM, OREGON

STATE E. IGNEER WATER WELL REPORT SALEM CHEGON STATE OF OREGON

Ben1 1690

State Well No. 10/414-9

(1) OWNER: Name Roy S. Hauser	(11) WELL TESTS: Drawdown is amount water level is lowered below static level Was a pump test made? Yes Mo If yes, by whom?	
Address 703 west (1th. 57	Yield: gal./min. with ft. drawdown	
ALBANY, ORREGON	., .,	
(2) LOCATION OF WELL: County Z/NN Owner's number, if any—	Bailer test / 5 gal./min. with / 5 ft. drawdown a	after Z
14 14 Section 9 T. 10 S R. 9 (40), W.M.	Temperature of water Was a chemical analysis made	.e? ☐ Yes 📆
Bearing and distance from section or subdivision corner	(12) WELL LOG: Diameter of well Depth drilled \$\sigma \text{S}\$ ft. Depth of completed well	00
	Formation: Describe by color, character, size of material a show thickness of aquifers and the kind and nature of the stratum penetrated, with at least one entry for each cha	e material in e
	MATERIAL	FROM TO
(3) TYPE OF WORK (check): New Well Deepening □ Reconditioning □ Abandon □	Dank Brown top	1 2
I andonment, describe material and procedure in Item 11.	light Brown Clay	2 /5
(2) PROPOSED USE (check): (5) TYPE OF WELL: Rotary Driven Driven	Hard packed SANGA	1 = = =
Domestic K Industrial Municipal Rotary Driven Cable K Jetted Dug Bored	GRADEL	15 37
(6) CASING INSTALLED: Threaded □ Welded	RIVER RUN SANDA	37 43
# Diam from 2 ft to 46 1 ft Gage 250 "Diam from ft to ft Gage		37 43 43 46
ft. Gage	Hard BARK BLUE CLAY.	46 79
(7) PERFORATIONS: Perforated? Yes No Type of perforator used	HARD DARK GRAY ROCK	79 88
SIZE of perforations in. by in.		
perforations fromft. toft.		
perforations fromft. toft.		
perforations fromft. toft.		
perforations fromft toft toft toft toft toft ft toft ft toft ft f	7	·
(8) SCREENS: Well screen installed		
Tyne Model No.		
D Slot size Set from ft. to ft.	0 15 61	
D Slot size Set from ft. to ft.	Work started Line /5 196 / Completed flu	me -1019
(9) CONSTRUCTION: Was well gravel packed? □ Yes ⊠ No Size of gravel:	(13) PUMP: Manufacturer's Name	
Gravel placed from ft. to ft.	Type: H.	.P.
Was a surface seal provided? ☐ Yes 🌠 No To what depth? ft. Material used in seal—	Well Driller's Statement:	
Did any strata contain unusable water? Yes No	This well was drilled under my jurisdiction an	d this report
Type of water? Co. VTAMANA Depth of strata 37 - 43	true to the best of my knowledge and belief.	
Method of sealing strata off Caseld	NAME VALLEY WELL DISTRICTS	
(10) WATER LEVELS: Static level 25 ft. below land surface Date Occure 2/	Address ALDARY, ORSCON	e or print)
rtesian pressure lbs. per square inch Date	Driller's well number 61-1-2	
ng Accepted by:	[Signed] Elsowed Butto	•••••
gned] Date, 19	License No. 253 (Well Driller) Date 944	ر 19. فريس

WATER WELL REPORT STATE OF OREGON

Bent

NEUL JAB

. JUNG 1982

State Well No.

105/541-21

WATER RESOURCES DEPT State Permit No. SALEM, OREGON

1) OWNER:	(10) LOC	CATIO	N OF V	WELL:				
Name Richard Jones	County	Bent	on	Dr	iller's wel			
Address Star Route 2			4 Section	26 1	10:	9 R. 5V	<u> </u>	
Dity Philomath, State Or. 97370	Tax Lot #	·		Lot	Blk	S	ubdivision	ı
(2) TYPE OF WORK (check):	Address at we	ell location	n:		 .			
								
New Well ⚠ Deepening □ Reconditioning □ Abandon □	(11) WA7	TER L	EVEL:	Compl	eted w	ell.		
If abandonment, describe material and procedure in Item 12.	Depth at whic	ch water w	as first fou	ınd		120		
(3) TYPE OF WELL: (4) PROPOSED USE (check):	Static level		40		ft. below l		ce. Date 5	127
Rotary Air 🐔 Driven 🗆 Domestic 📭 Industrial 🗆 Municipal 🔾	Artesian pres	sure				er square		
Rotary Mud Dug Irrigation Test Well Other Bored Thermal: Withdrawal Reinjection	(12) WEI	LLLOC	ζ. n	iameter of	wall balaw	ansina	6"	
	Depth drilled		272		Depth of	•	iwell 2	72
(5) CASING INSTALLED: Steel ☐X Plastic ☐ Threaded ☐ Welded 🛱 X	Formation: D							
6 "Diam from 0 ft. to 78 ft Gauge 250	thickness and							
"Diam. from	for each chan				nange m	position c	1 Static W	ater
LINER INSTALLED:			(ATERIAL			From	То	SV
	<u> </u>					+		
"Diam. from	brown c		-			<u> </u>	6	
(6) PERFORATIONS: Perforated? Yes XNo	brown c				 -	1 6	18	
Type of perforator used	broken			STORE		18	35	
Size of perforations in. by in.	brown				 -	35	55 75	_
perforations fromft. toft.	broken	<u>b</u>	Sanc	SLONE_			150	
perforations from ft. to ft.	hd blk	Dasai	T 3	4pm		75	210	_
perforations fromft. toft.	hlack l					210		\vdash
(7) SCREENS: Well screen installed? ☐ Yes ▼ No	blk bas			e qtz		250	250	\vdash
Manufacturer's Name	gray b	251				1250	-212-	\vdash
Type						†~~~	<u> </u>	
Diam. Slot Size Set from ft. to ft.		-				 		\vdash
Diam. Slot Size Set from ft. to ft.						1		\vdash
(8) WELL TESTS: Drawdown is amount water level is lowered below static level								
(6) WELL 1E515: below static level			·					
a a pump test made? ☐ Yes 😓 No If yes, by whom?		-						
ld: gal/min. with ft. drawdown after hrs.	.							
Air test 5 gal./min. with drill stem at 267 ft. 2 hrs.								
Bailer test gal./min. with ft. drawdown after hrs.								
rsian flow g.p.m.	.					<u> </u>	<u> </u>	
Depth artesian flow encountered ft.	Work started	26/		19 82	Comple	ted	5/27/	
(9) CONSTRUCTION: Special standards: Yes □ No 🗵	Date well dri	illing mach	ine move	d off of well	<u> </u>			:/2
Well seal-Material used Cenent	Drilling M	lachine (Operato	r's Certif	ication:		_	
Well sealed from land surface to25				d under n				
Diameter of well bore to bottom of seal 10 in.	and inform	nation rep	ortedati	bve are tr	ue (my	best kno	wiedge a	ind !
Diameter of well bore below seal	[Signed]	(Drill	ling Machin	ne Operator)	A LUCA	റു Dat	e/.2./	• • • •
Number of sacks of cement used in well seal	Drilling Ma	achine Ot	perator's	License N	o	503		
How was cement grout placed?pressure		<u>`</u>						
	Water Wel			-				
	the best of			nder my j nd belief	urisdictio	on and th	us repor	l is
Was pump installed? Type HP Depth ft.		-			anne.	1a e :		n
Was a drive shoe used? ☐ Yes ├No Plugs Size: location ft.						د چه ده ده ده	(Type	or pr
Did any strata contain unusable water?	- Address	۰۰۰ نسوده		hile	pit that	or		
Type of Water? depth of strata	[Signed]	Hen	Gm.	12/1	14	id lis	t liff	
Method of sealing strata off Was well gravel packed? □ Yes 🕱 No Size of gravel:	- -		77	Water		ictor F	ST.	
Gravel placed from	- Contractor	's License	e No	De	ıte		5/	••••

WATER RESOURCES DEPARTMENT. SALEM, OREGON study within 30 days from the date of well completion. APR 3 T STATE OF OREGON

(Do not write above this line)

State Permit No.

(1) OWNER: WATER RESOURCES	(10) LOCATION OF WELL:		
CALEM. USEGO.	County Benton Driller's well number		
Name Don Deardorff Address Rt. 1. Box 299A			
	= Bearing and distance from section or subdivision corner		
(2) TYPE OF WORK (check):	Bearing and distance from section or subdivision corner		
New Well ■ Deepening Reconditioning Abandon □			
If abandonment, describe material and procedure in Item 12.	(11) WATER LEVEL: Completed w	- II	
(3) TYPE OF WELL: (4) PROPOSED USE (check):	1 ' '		
Potenty E Driven C	Depth at which water was first found	140	
Cable		surface. Date 4/5/7	
Dug Bored Irrigation Test Well Other	Artesian pressure lbs. per squar	e inch. Date	
CASING INSTALLED: Threaded Welded	(12) WELL LOG: Diameter of well by	pelow casing 6	
6. Diam. from		oted mull	
ft. Gage ft. Gage			
ft. toft. Gage	Formation: Describe color, texture, grain size and show thickness and nature of each stratu	m and aquifer peneti	
DEDEOD A MIONG.	with at least one entry for each change of forma position of Static Water Level and indicate prin	tion. Report each chan	
Perforated? Tyes No.			
Type of perforator used	MATERIAL	From To S	
Size of perforations in, by in,	brown clay & grit	0 3	
perforations fromft. toft.	borown clay	8 15	
perforations fromft. toft.	hadd gray basalt black basalt	15 45	
perforations fromft. toft.	gray basalt	45 75	
(7) SCREENS: Well screen installed? Yes No	hd gray basalt & white qtz	75 120	
Manufacturer's Name	blk basalt & white qtz 50gpm	120 145	
Type Model No			
Diam. Slot size Set from ft. to ft.			
Diam. Slot size Set from ft. to ft.			
(8) WELL TESTS: Drawdown is amount water level is		 	
lowered pelow static level		 -	
Vield: 50 m gal./min. with 65 ft. drawdown after 2 hrs.			
<u>"</u>			
Bailer test gal./min. with ft. drawdown after hrs.			
Artesian flow g.p.m.			
perature of water 51 Depth artesian flow encountered ft.	Work started 4/4/ 19 79 Complete	ed 4/5/	
(9) CONSTRUCTION:	Date well drilling machine moved off of well	4/5/	
Well seal—Material usedcement	Drilling Machine Operator's Certification:		
Well sealed from land surface to	This well was constructed under my	direct superv	
Diameter of well bore to bottom of sealin.	Materials used and information reported best knowledge and belief.	above are true	
Diameter of well bore below seal	115477	Date 4/26/	
Number of sacks of cement used in well seal 5 sacks	(Drilling Machine Operator)		
How was cement grout placed? pressure	Drilling Machine Operator's License No		
	Water Well Contractor's Certification:	-	
was a second of the second of	This well was drilled under my jurisdiction and this re		
	true to the best of my knowledge and be		
Was a drive shoe used? Tyes No Plugs Size: location It.	NameRaymondC.Gellatly&Ros	ald S.Withar	
Did any strata contain unusable water? Yes	t .	1	
Type of water? depth of strata	Address P.O. Box 1, Philomath, Or.		
Method of sealing strata off	[Signed] Alfolica (Water Well Contractor)		
Was well gravel packed? Yes No Size of gravel:	(Water Well Cont		
Gravel placed from . ft. to ft.	Contractor's License No77 Date	4/2/6	

APPENDIX D GROUNDWATER SAMPLING PROGRAM, COFFIN BUTTE LANDFILL

April 17, 1995 Project 40139-001.049

Mr. William Webber Valley Landfills, Inc. P.O. Box 807 Corvallis, Oregon 97339

Re: Results of Groundwater Monitoring at Coffin Butte Landfill, Benton County,
Oregon

Dear Mr. Webber:

This letter describes the results of groundwater sampling and analysis of selected wells at the Coffin Butte Landfill for radioactive substances. Five wells were sampled, four of which are downgradient of cell 1A, and one upgradient of the landfill. The downgradient wells monitor shallow and deep groundwater zones. The results demonstrate that there is no leaching of radioactive material from the landfill to groundwater. Below, EMCON describes the methods and procedures used for sampling and analysis.

Groundwater samples were analyzed for gross alpha and gross beta particle activities in water. The analytical method is a screening technique for alpha and beta particle activities according to the limits set forth under the Federal Safe Drinking Water Act (SDWA). The standard for gross alpha particle activity under the SDWA is 15 picocuries per liter. There is no standard for gross beta.

The water samples were collected on March 3, 1995, from wells MW-10S, MW-10D, MW-11S, MW-11D, and MW-13 consistent with the water sampling and analysis plan for the Coffin Butte Landfill. The samples were sent to Energy Laboratories, Inc., of Casper, Wyoming, for analysis.

The laboratory results (attached) show that gross alpha activity was not detected in samples from four of the five wells. In one of the samples (from MW-10S), a trace of gross alpha activity was measured at a level that is well below the standard. Gross beta activity was measured in samples from three of the wells, one of which is the background well (MW-13). The gross beta activity in the downgradient wells is equivalent to or less than that measured in the background well.

If you have any questions about the results, please call.

Sincerely,

EMCON

Eric J. Tuppan, R.G., Senior Project Geologist

Attachments: Laboratory Report

cc/att: Dorothy Atwood; EMCON, Portland



EI. . IGY LABORATORIES, INC.

P.O. BOX 3258 • CASPER. WY 82602 • PHONE (307) 235-0515 254 NORTH CENTER, SUITE 100 • CASPER, WY 82601 • FAX (307) 234-1639

LABORATORY ANALYSIS REPORT = EMCON Northwest

Report Date: 03-22-95

	<u>Lab I.D. #</u>	Sample I.D.	Sample <u>Date</u>	Gross Alpha pCi/l	(dissolved) Prec ±	Gross Beta of pCi/I	(dissolved) Prec ±
JELL 1.D. MW-1	3 95- 13189	9 CB-0303 95-1	03-03-95	< 1.0	- Process	2.8	2.2
MW-1	95- 13190	O CB-0303 95-2	03-03-95	< 1.0		3.4	2.7
MW-10	05 1310	1 CB - 0303 95 - 3	03-03-95	1.9	1.8	< 1.0	

MW-105 1.4 95- 13192 | CB-0303 95-4 | 03-03-95 < 1.0 MW-11D ~ 1.0 95- 13193 CB-0303 95-5 03-03-95 < 1.0 PII-WA 1.0 1.0 Detection Limit:

Report Approved by: R.a. Leading PIH 13189emc.wk3

RECEIVED WOOD

April 27, 1995

Oregon Department of Environmental Quality Charles W. Donaldson, Manager Solid Waste Western Region 750 Front Street NE Ste. 120 Salem, OR 97310

RE: Alternate daily cover material

Dear Mr. Donaldson:

Coffin Butte Landfill is using the James River Corporation (Halsey) recycled paper sludge for alternate daily cover. Per your letter dated 4/24/95, this material has met your approval for use as a daily cover. We request paying the \$.30 per ton on this material per temporary DEQ rule adopted Feb. 15, 1995. We expect to accept and use 15,000 tons per quarter of the James River sludge for daily cover.

Sincerely,

Gary A. Barton, Controller

May le Bat

Valley Landfills, Inc.

Parameter (MCL in ppb)	MW- 10S	MW- 10D	MW- 11S	MW- 11D	MW- 12S	MW-17	MW-18	MW-19
Toluene (1000)	0.2	0.3	0.1	0.2	ND	ND	ND	ND
1,1,1-TCA (200)	0.2	0.2	0.2	0.6	ND .	ND	ND	ND
TCE(5)	ND	0.1	1.5	1.6	2.8	ND	ND	ND
Trichloro- trifluoro- methane	ND	ND	0.1	0.3	ND	ND	ND	ND
Vinyl Chloride(2)	3.0	3.7	0.9	2.0	ND	ND	ND	ND
total Xylenes (10000)	. 0.2	0.3	0.1	0.2	ND	ND	- ND	ND

ND = not detected above method detection limits

Elevated magnesium levels were also detected in MW-10, MW-11, and MW-17 which may be attributed to the disposal of magnesium wastes in Cell 1A by Wah Chang.

The site consultant contends that MW-17 through MW-19 can be used as new compliance monitoring points instead of MW-10 and MW-11 in this area. The results of analyses to date from MW-17 through MW-19 are predominantly 'non-detect' for parameters analyzed, however these wells do not extend into the fresh basalt unit as compared to MW-10D and MW-11D, where vinyl chloride has been detected at or above MCLs (chemical degradation path: PCE-TCE-DCE-vinyl chloride).

Pulp sludge that is used as cover material came into question in 1991 and 1992. A composite sample was analyzed for TCLP metals, TCLP VOCs, dioxin and furan. Only dioxin and furan were detected above method detection limits at 0.96 and 5.0 pg/g or parts per quadrillion.

Information was not available on the potential presence of radionuclides in the groundwater downgradient of Cell 1A. General information from Solid Waste Program representatives indicated that the Oregon Health Division had been notified when the issue was first raised in the mid-80s.

Table 1 Volatile Organic Compounds Detected Units in ug/l

Parameter	Date	MW-20	MW-21	MCL
MEK	9/29/93 2/24/94 8/11/94 11/4/94 2/10/95	2U* 2U 2U 2OU 2OU	4 5 2U 20U 20U	
cis-1,2- Dichloroethene	9/29/93 2/24/94 8/11/94 11/4/94 2/10/95	0.5U 0.5U 0.5U 0.5U 0.5U	0.6 0.5 0.5 0.6 0.5U	70
Toluene	9/29/93 2/24/94 8/11/94 11/4/94 2/10/95	0.5U 0.5U 0.5U 0.5U 0.5U	0.7 0.5U 0.5U 0.5U 0.5U	1000
Chlorobenzene	9/29/93 2/24/94 8/11/94 11/4/94 2/10/95	0.5U 0.9 0.5U 0.5U 0.5U	5.0 3.7 3.9 3.7 2.5	100
Total xylenes	9/29/93 2/24/94 8/11/94 11/4/94 2/10/95	0.5U 0.5U 0.6 0.5U 0.5U	1.2 0.5U 0.5U 0.5U 0.5U	10,000
1,2- Dichlorobenzene	9/29/93 2/24/94 8/11/94 11/4/95 2/10/95	0.5U 0.5U 0.5U 0.5U 0.5U	1.0 1.1 0.8 1.1 0.5	600

^{*} U = the material was analyzed for, but not detected at a concentration greater than the associated value.

One semi-volatile organic compound, bis(2-ethylhexyl)Phthalate, was detected at one sampling event in MW-20 and MW-21 at 40 and 330 ppb, respectively. This compound is a plasticizer commonly found in landfill leachate and also could be attributed to sample containers.

Major cations and trace metals were detected in the groundwater samples collected. The levels of trace metals were below drinking water standards.

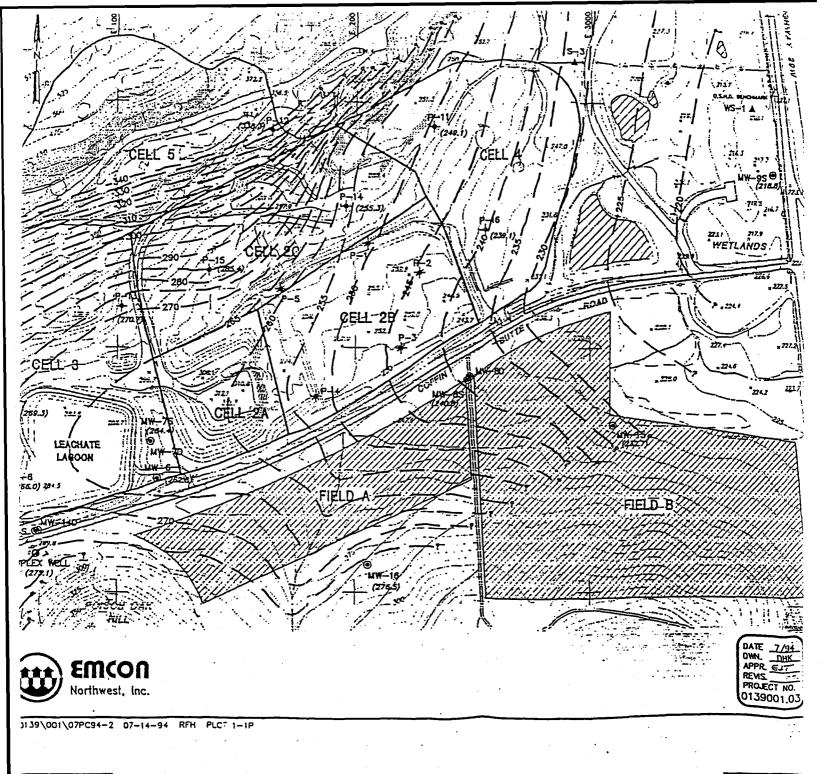
Water quality samples have not been collected from P-9 and P-10. Surface water quality samples collected from upstream and downstream location on Soap Creek indicate increased levels of indicator parameters at the downstream location.

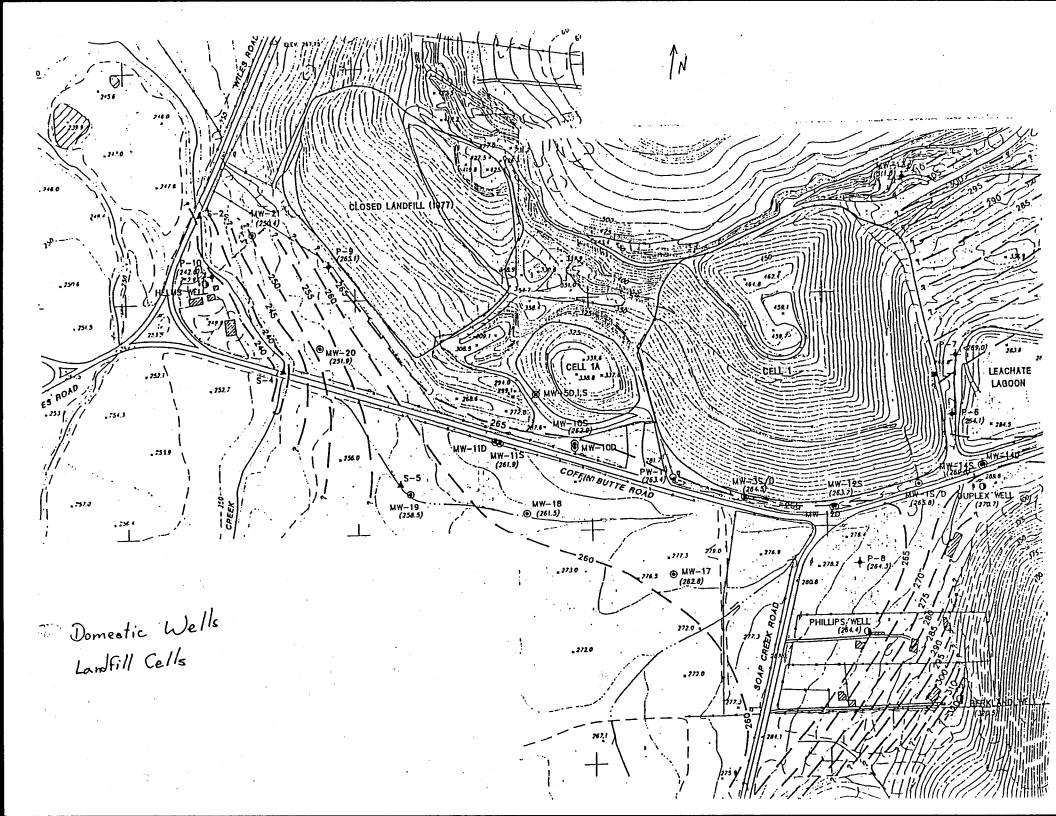
<u>Cells 1 and 1A</u> are located on the south slope of Coffin Butte with a total estimated area of three acres. Seven monitoring wells and well nests were installed downslope of these two disposal cells. Well construction details are provided in Table 2 below.

Table 2
Well Construction Summary

Location	Total Depth (ft)	Screened Interval (ft)	Date Completed	Geologic Unit screened	Status
MW-5/S	4.5	3-4.5	11/16/79	álluvium	decommissioned 5/28/91
MW-5/I	30	24-29	11/16/79	wx basalt*	decommissioned 5/28/91
MW-5/D	58	53-58	11/16/79	wx basalt	decommissioned 5/28/91
MW-10/Ś	32	22-32	8/2/85	wx basalt	in use
MW-10/D	77	67-77	8/2/85	fresh basalt	in use
MW-11/S	32	22-32	8/5/85	wx basalt	in use
MW-11/D	75	65-75	8/5/85	fresh basalt	in use
MW-12/S	26	21-26	9/19/91	wx and fresh basalt	in use
MW-12/D	61	55-60	9/19/91	fresh basalt	in use
MW-17	27	16-26	7/15/93	wx basalt	in use
MW-18	21	11-21	7/15/93	wx basalt	in use
MW-19	.24	13.5-23	7/16/93	wx basalt	in use

wx basait = weathered basait





APPENDIX E LABORATORY DATA RESULTS AND DATA VALIDATION REPORTS

URS CONSULTANTS



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY REGION 10

1200 Sixth Avenue Seattle, Washington 98101

DCL#: <u>62760 .41.60.1243</u> 1996 FILE NO.; <u>51.a</u> CC: .Th

C/SM

PM DPM

June 6, 1996

REPLY TO

ATTN OF: OEA-095

MEMORANDUM

SUBJECT: Data Validation for Camp Adair, Case# 24554, SDG # MJK671, Metals analysis

FROM:

Donald Matheny, Chemist

Quality Assurance & Data Unit, OEA

TO:

Mark Ader, Project Manager

Office of Environmental Cleanup

The validation of metals analysis for case # 24554, SDG # MJK671 is complete. This SDG was comprised of 18 soil and 2 water samples which were analyzed for metals by Chester LabNet of Houston, TX. The samples were numbered:

MJK671	MJK672	MJK673	MJK674	MJK675
MJK676	MJK677	MJK678	MJK679	MJK380
MJK383	MJK386	MJK387	MJK688	MJK689
MJK691	MJK692	MJK693	MJK694*	MJK695*

^{*} Water samples

DATA QUALIFICATIONS

The following comments refer to the laboratory's performance in meeting quality control specifications outlined in the "CLP Statement of Work (CLP-SOW) for Inorganic Analysis, ILMO4.0", and the "USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, EPA-540/R-94-013". Data qualifications presented herein are based on the information provided for the review.

1.0 TIMELINESS - Acceptable

The holding time from the date of collection to the date of digestion and analyses were met for all metals (180 days, mercury 28 days). Samples were collection and analyses dates are provided in the table below. Laboratory verification of cooler temperature (4°C) upon receipt was documented.

			Analyses Date	es
Sample #	Sample Date	ICP	GFAA*	Mercury
MJK671	4-09-96	5-05-96	5-13-96	4-23-96
MJK672	4-10-96	٠٠ >>	5-14-96	66 37
MJK673	4-11-96	٠٠ >>	66 39	66 33
MJK674	4-09-96	66 27	5-13-96	66 39
MJK675	44 27	دد ۲۰	66 >>	66 27
MJK676	" »	٠٠ >>	66 >>>	66 27
MJK677	46 27	. 46 >>	5-14-96	. ""
MJK678	4-10-96	""	دد »	
MJK679	4-09-96	« »	5-13-96	66 27
МЈК680	4-10-96	٠٠ *>	5-14-96	66 99
МЈК683	4-11-96	66 >>	5-13-96	66 27
МЈК686	4-10-96	" "	٠ , , , , , , , , , , , , , , , , , , ,	4 39
MJK687	""	٠٠ *>	٠٠ >>	" " .
MJK688	" "	"	دد »	66 27
MJK689	""	66 >>	« »	. ""
MJK691	4-09-96	" "	٤٤ >>	46 27
MJK692	4-10-96	(د)	٠٠)) ٔ	46 27
MJK693	= " "		دد ۲۲	""
MJK694	4-09-96	""	66 >>	4-19-96
MJK695	4-10-96	دد »	u »	4-19-96

^{*} Indicates the latest date for GFAA analysis.

2.0 INSTRUMENT CALIBRATION/VERIFICATION - Acceptable

For ICP-AES analysis, instrument calibration was performed with a blank and single calibration standard for each element meeting the calibration requirement.

For GFAA analysis, instrument calibration was performed with a blank and four standards (except for lead used three standards). Correlation coefficients for each calibration curve (0.995 - 0.999) met the linearity requirement (≥ 0.995).

For CVAAS mercury analysis, instrument calibration was performed with a blank and five standards. The calibration curve had a correlation coefficient of 0.999 which met the linearity requirement (≥ 0.995).

Calibration verification for ICP-AES, GFAA and Hg CVAA analyses was performed in accordance with the required frequency (10%) and the recovery range (91-109%) met the recovery criteria (ICP/GFAA; 90-110%, CVAA; 80-120%). CRDL standards were analyzed at the required frequency and concentrations.

3.0 ICP-AES INTERFERENCE CHECK SAMPLE (ICS) - Acceptable

Percent recoveries for the ICS (85-118%) met the recovery criterion (80-120%) and the frequency requirements for analysis (5%). No interferences are suspected based upon ICS performance and indigenous elemental concentrations.

4.0 LABORATORY CONTROL SAMPLES (LCS) - Acceptable

All metals results for the LCS were within the control limit established for soils.

5.0 BLANKS

Results for all blanks were non-detected or below a factor of 5 times that found in associated samples with the exception of the beryllium (CCB; 0.8, 0.6 ug/l) and manganese (1.8, 1.3 ug/l). As a result, the following samples were qualified "U". For beryllium, all soil samples with the exception of MJK672, MJK673, MJK680, MJK683, MJK687 and MJK692. For manganese, MJK694 and MJK695 (water samples).

6.0 MATRIX SPIKE ANALYSIS

Percent recoveries for matrix spike samples (83-108%) were within the limits of 75-125% with the exception of antimony (40.8%), cadmium (74.5%) and silver (43.2%). As a result, all soil sample results for antimony and silver were qualified "J" or "UJ". Cadmium results were not qualified due to only a slight exceedance of the criterion.

7.0 DUPLICATE SAMPLE ANALYSIS - Acceptable

Sample duplicate relative percent differences (\leq 0.4% or within 2 X CRDL) met the \pm 35% (or \pm 2 X CRDL) criterion for soils.

8.0 ICP-AES SERIAL DILUTION

Results for the five-fold serial dilution met the \pm 10% difference criterion with the exception of the following:

Aluminum (15.1%) Iron (10.1%)
Barium (12.5%) Magnesium (10.8%)
Calcium (11.6%) Manganese (11.7%)
Chromium (11.3%) Zinc (14.1%)

Because most of the exceedances were just slightly over the criterion, only aluminum and zinc were qualified "J" due to serial dilution results.

9.0 Graphite Furnace Atomic Absorption QC

Analytical spike recoveries and method of standard addition (MSA) determinations met the technical criteria with the exception of the following:

- Correlation coefficients for the MSA determinations of arsenic in samples MJK680 (0.977) and MJK683 (0.926) were below the ≥0.995 criterion. These samples were qualified "J" for arsenic.
- Analytical spike recoveries for selenium were below the 85-115% criterion (sample absorbances were < 50% of spike absorbance) for the following samples:

MJK671	MJK676	MJK679	MJK691	MJK686
MJK687	MJK688	MJK692	MJK695	MJK683

As a result, these samples were qualified "J" for selenium.

10.0 Laboratory Contact

No laboratory was contact was made for this SDG.

11.0 ASSESSMENT SUMMARY

The following is a summary of the qualified data:

12 beryllium soil results and two manganese water results were qualified (U) due to the presence of these elements in associated blank samples. All antimony and silver results were qualified (J or UJ) due to low spike recoveries. Values for antimony and silver may be biased low. Two arsenic results were qualified (J) due to low correlation coefficients for MSA determinations. 10 selenium results were qualified (J) due to low analytical spike recoveries. Qualified selenium values may be biased low. All aluminum and zinc data were qualified (J) due to a high percent difference in the serial dilution result. Aluminum and zinc values may be biased low. The following contains a list of data qualifiers and their definitions.

DATA QUALIFIERS

- U The material was analyzed for, but was not detected above the level of the associated value.

 The associated value is either the sample quantitation limit or the sample detection limit.
- J The associated value is an estimated quantity.
- R The data are unusable. (Note: Analyte may or may not be present.)
- UJ The material was analyzed for, but was not detected. The associated value is an estimate and may be inaccurate or imprecise.

EPA SAMPLE NO.

ab Name: CHESTE ab Code: CHESTX atrix (soil/wat evel (low/med):	Cas	se No.: 245	Contract: 68		SDG No.: N	
atrix (soil/wat			SAS No.		SDG NO · N	* ~~~ ~~ ~~
•	ter): SOIL			·	DDG NO F	IJK671
vel (low/med):		_		Lab Sampl	le ID: H6067	703
	LOW	_		Date Rece	eived: 04/11	./96
Solids:	_73.8	3				
Conc	centration	Units (ug,	/L or mg/kg dry	weight)	: MG/KG	-
C	CAS No.	Analyte	Concentration	C Q	M	•
=	7429-90-5	Aliminim	34900	- 是丁	P	
1		Antimony	7.5			
		Arsenic	0.99		F	
	7440-39-3	Barium	93.4	B	P_	
1	7440-41-7		t	BU	P	
	7440-43-9		0.92	U	P	
		Calcium	8150	E	P_	
		Chromium	126	- Z	P_	
		Cobalt	58.9		P	
7		Copper	76.2		P_	
	7439-89-6	Iron	61100	- P	P_	
	7439-92-1	Lead	0.41		F_	
	7439-95-4	Magnesium	12200		P_	
7		Manganese	1520		P_	
	7439-97-6	Mercury	0.14	U	CV	
17	7440-02-0	Nickel	73.4		P_	
		Potassium	295		P_	
		Selenium_	0.54		F_	
,		Silver	1.0		P 2	
L L		Sodium_	911		P	
l l		Thallium_	0.51		76-7- 170-17-18-18-18-18-18-18-18-18-18-18-18-18-18-	
· ·		Vanadium_	192		11 3	
 	7440-66-6	Zinc	71.0	_ B J	P	
}_		Cyanide	 :	 	NR	
. 1		l	l	l_l	11	
olor Before: E	BLACK	Clari	ty Before:		Texture:	FINE_
olor After: Y	YELLOW	Clari	ty After:	 .	Artifacts:	
omments:						*
·		<u> </u>			<u> </u>	
						·.
					 	

FORM I - IN

EPA	SAMPLE	NO.
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		INORGANIC A	1 ANALYSES DATA S	SHEET	EPA SAMPL	E NO.
ab Name. Curc			Contract: 68		MJK674	
						<u> </u>
Lab Code: CHES	TX Ca	se No.: 245	SAS No.		SDG No.:	MJK671
Matrix (soil/w	ater): SOIL			Lab Samp	le ID: H606	7704
Level (low/med	.): LOW_	<u>-</u>		Date Rece	eived: 04/1	1/96
% Solids:	_65.	0				
Co	ncentration	Units (ug,	/L or mg/kg dry	y weight)	: MG/KG	
	1	T				
	CAS No.	Analyte	Concentration	C Q	M .	
·	7429-90-5	Aluminum	41000	- 2 5	P	
	7440-36-0	Antimony	12.7	B XJ	P	
	7440-38-2	Arsenic	0.89		F	
	7440-39-3	Barium	132	-£	P	
	7440-41-7	Beryllium		B	P_	
+	7440-43-9	Cadmium	1.0		P	
	7440-70-2	Calcium	9480	- E	P	
	7440-47-3	Chromium	171	E-	P	
	7440-48-4	Cobalt	92.1	-	P	
•	7440-50-8	Copper	82.1		P	
	7439-89-6	Iron	79100	- 2	P_	
	7439-92-1	Lead	1.0		F	
*,	7439-95-4	Magnesium		2	P_	
4	7439-96-5	Manganese	1		P	
•	7439-97-6	Mercury	0.15		ĊŪ	
	7440-02-0	Nickel	76.6	· · ·	P	
	7440-09-7	Potassium		 	p	
	7782-49-2	Selenium	0.31		F_	
	7440-22-4	Silver	1.2)
	7440-23-5	Sodium	1540		b_ a	
	7440-28-0	Thallium	0.58		F 3	
•	7440-62-2	Vanadium	275		י ומו	
•	7440-66-6	Zinc	79.7	E5	P- 3	
	, 110 00 0	Cyanide		-	NR	
Color Before:	BLACK	Clari	ty Before:		Texture:	FINE_
Color After:	YELLOW	Clari	ty After:	 -	Artifacts:	<u> </u>
Comments:						

FORM I - IN

EPA	SAMPLE	N()

lb Name: CHES	TER_LABNET_		Contract: 6	8-D5-0140	MJK675	
b Code: CHES	TX Ca	se No.: 24	554_ SAS No.	:	SDG No.:	MJK671
trix (soil/w	ater): SOIL	-		Lab Sampl	e ID: H606	7705
evel (low/med): LOW_			Date Rece	ived: 04/1	1/96
Solids:	_51.	7				
Co	ncentration	Units (ug	/L or mg/kg dr	y weight):	MG/KG	,
	CAS No.	Analyte	Concentration	C Q	M	
				1 1		
		Aluminum_	45700	25	P	
	7440-36-0	Antimony_	11.6		P_	
	1	Arsenic_	2.1		F P	
•	7440-39-3 7440-41-7	Barium	143		P_	
	7440-41-7		1.3	B U	P P	
	7440-70-2	Calcium	10600		P-	
	7440-70-2	Chromium	203	2	P_	
	7440-48-4	Cobalt	92.7	-	P-	
	7440-50-8	Copper	106	-	P	
•	7439-89-6	Iron	90800	- 2	P_	
•	7439-92-1	Lead	1.5		F	
	1	Magnesium	16400	2	P_	
)	Manganese	2290	2	P	
		Mercury_	0.19		c⊽	
		Nickel	79.6		P	
		Potassium	422		P_	
	7782-49-2		0.39		F_	
		Silver	1.5		P_ •	ř
		Sodium	1120		$P = \frac{1}{2}$	
	7440-28-0	Thallium_	0.74	, , , , , , , , , , , , , , , , , , , 	F A 7	
	7440-62-2	Vanadium_	327		P	
	7440-66-6	Zinc	98.4		P	
		Cyanide			NR	
lor Before:	BLACK	Clari	cy Before:		Texture:	FINE
lor After:	YELLOW	Clari	ty After:	· ·	Artifacts:	
mments:				•		
· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·				·	
		·			·	· · · · · ·
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FORM I - IN

EPA	SAMPLE	NO.
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		INORGANIC A	NALYSES DATA S	SHEET		
	•				MJK676	
Lab Name: CHES	TER_LABNET_		Contract: 68	B-D5-0140		
Lab Code: CHES	TX Ca	se No.: 245	SAS No.	:	SDG No.: MJ	K671
Matrix (soil/w	vater): SOIL	'. ! 		Lab Sampl	Le ID: H60677	08
Level (low/med	l): LOW_	·		Date Rece	eived: 04/11/	96
% Solids:	_70.	2				
Co	ncentration	Units (ug/	L or mg/kg dry	y weight):	MG/KG	
	CAS No.	Analyte	Concentration	c Q	M	
	CAS NO.	Analyte	Concentration		M	
	7429-90-5 7440-36-0	Aluminum_ Antimony	23800	B 27 5	P	
	7440-38-2	Arsenic	2.7		F-	
•	7440-39-3	Barium —	142	- 2	P	
	7440-41-7	Beryllium	0.61		P P	
	7440-43-9	Cadmium	0.97			
	7440-70-2	Calcium	6880		P_	
	7440-47-3	Chromium_	94.8		P_	
•	7440-48-4	Cobalt	69.2		P_	
	7440-50-8	Copper	69.2	_	P_	
	7439-89-6	Iron	53700		P	
	7439-92-1	Lead	2.7	_	F_	
	7439-95-4	Magnesium	9040		P	,
	7439-96-5	Manganese	2100		P	
	7439-97-6	Mercury	0.14		C∇	
	7440-02-0	Nickel	50.0		P_	*
	7440-09-7	•	311		P	
	7782-49-2		0.85	B # 5	F	
•	7440-22-4		1.1		P 7 0	
	7440-23-5	Sodium	880		P A	
	7440-28-0	Thallium_	0.54	U _#	F 3	
•	7440-62-2	Vanadium_	182	l-l- <u>-</u>	i - i	
	7440-66-6	Zinc	63.5	<u> </u>	P_	
		Cyanide			NR	
Color Before:	BLACK	Clarit	y Before:		Texture:	FINE
Color After:	YELLOW	Clarit	ty After:		Artifacts:	
			· ,			

FORM I - IN

Comments:

EPA SAMPLE NO

		INORGANIC A	ANALYSES DATA S	SHEET	
			· · · · · · · · · · · · · · · · · · ·		MJK677
Lab Name: CHES	TER_LABNET_		Contract: 68	3-D5-0140	J
ab Code: CHES	STX Ca	se No.: 24	554_ SAS No.:	·	SDG No.: MJK671
Matrix (soil/w	vater): SOIL	_		Lab Sampl	Le ID: H6067709
evel (low/med	l): LOW_	-		Date Rece	eived: 04/11/96
Solids:	_56.	8			
Cc	oncentration	Units (ug,	/L or mg/kg dry	y weight):	MG/KG
	CAS No.	Analyte	Concentration	C Q	M
		Aluminum_	46100	<u> </u>	P_
		Antimony_	13.6	BXJ	P_
	•	Arsenic_	1.9		F_
	1	Barium	154	_ Z	P
		Beryllium	0.90		P_
÷	1	Cadmium	1 1	· · · · · · · · · · · · · · · · · · ·	P
	7440-70-2	Calcium_	10200		P
	7440-47-3	Chromium_	184	_ _ 2	P_
	1	Cobalt	91.9	_	P
	7440-50-8	Copper	94.7	_	P
•	7439-89-6	Iron	85100		P_
•	7439-92-1	Lead	2.3	-	F_
,	7439-95-4	Magnesium		2	P
	7439-96-5	Manganese	2370	_ _z	P
		Mercury		<u> </u>	C∇
	1	Nickel	74.8	=	P
	1	Potassium	384		5-7-9 1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1
		Selenium_	1.3	B	F_ 3.9
		Silver			P-P-A
•	7440-23-5	Sodium	1090		F_ 3
	7440-28-0	Thallium_	0.67	U	F_P
	7440-62-2 7440-66-6	Vanadium_ Zinc	311	- 	P-
	/440-66-6		92.6	_ 2 5	·)
		Cyanide			NR
olor Before:	BLACK	Clarit	ty Before:		Texture: FINE_
olor After:	YELLOW	Clarit	ty After:		Artifacts:
omments:					

FORM I - IN

EPA	SAMPLE	NO.

		INORGANIC A	ANALYSES DATA S	ourr!	
ab Name: CHES'	TER LABNET		Contract: 68	3-D5-0140	MJK679
	<u> </u>		SS4_ SAS No.:	٠	•
trix (soil/w	ater): SOIL			Lab Samp	le ID: H6067710
evel (low/med): LOW	· 		Date Rec	eived: 04/11/96
Solids:	_70.	2			
Co	ncentration	Units (ug	L or mg/kg dry	weight)	: MG/KG
	CAS No.	Analyte	Concentration	C Q	M
	7440-36-0 7440-38-2 7440-39-3 7440-41-7 7440-43-9 7440-47-3 7440-48-4 7440-50-8 7439-92-1 7439-95-4 7439-95-4 7439-96-5 7439-97-6 7440-02-0 7440-09-7 7782-49-2	Aluminum Antimony Arsenic Barium Beryllium Cadmium Calcium Chromium Cobalt Copper Iron Lead Magnesium Manganese Mercury Nickel Potassium Selenium Silver Sodium Thallium Vanadium Zinc Cyanide	2.7	B	PPFPPPPPPPPPPPPPPNR
lor Before:	BLACK	Clari	ty Before:		Texture: FINE
lor After:	YELLOW	Clari	ty After:		Artifacts:
omments:		0			

FORM I - IN

EPA SAMPLE NO

		INORGANIC A	ANALYSES DATA	SHEET	ETA BANTEE NO.
					MJK691
Lab Name: CHES	TER_LABNET_		Contract: 6	8-D5-0140	
Lab Code: CHES	TX Ca	se No.: 245	SAS No.	:	SDG No.: MJK67
Matrix (soil/w	ater): SOIL	• . —		Lab Samp	le ID: H6067711
Level (low/med): LOW_			Date Rece	eived: 04/11/96
Solids:	_49.	2			
Co	ncentration	Units (ug/	/L or mg/kg dr	y weight)	: MG/KG
	1				 [
	CAS No.	Analyte	Concentration	CQ	M
	7429-90-5	Aluminum	53000	- E5	P
•	7440-36-0		11.5		P
	7440-38-2	Arsenic_	1.5	B -	F
		Barium	134	-	P
	7440-41-7	Beryllium	1.1		P_
•		Cadmium_	1.4		P P
	7440-70-2 7440-47-3	Calcium_ Chromium	11300 207		P
	7440-48-4		90.2		P-
	7440-50-8	Copper	118		P
	7439-89-6	Iron	90300		P
	7439-92-1	Lead	1.5		F_
	7439-95-4	Magnesium	16400		P
		Manganese	2190		P
	7439-97-6		0.20		[C <u>V</u>
	7440-02-0		82.8 443		P_ P_
	7440-09-7		1.2		F
	7440-22-4		1.5		p- 3 y
	7440-23-5	Sodium	927		
1	7440-28-0	Thallium	0.77		F
	7440-62-2	Vanadium	340		P_ (
•	7440-66-6	Zinc	103	老五	P_
		Cyanide			NR
				.	ll
Color Before:	BLACK	Clarit	y Before:		Texture: FINE
Color After:	YELLOW	Clarit	y After:	· · · · · · · · · · · · · · · · · · ·	Artifacts:
Comments:					
	<u> </u>				

FORM I - IN

EPA	SAMPLE	NO.
	1	

		INORGANIC A	ANALYSES DATA S	SHEET	
ab Name: CHES	TER_LABNET_		Contract: 68	3-D5-0140	MJK672
ab Code: CHES	TX Ca	se No.: 245	SAS No.	<u></u>	SDG No.: MJK671
Matrix (soil/w	ater): SOIL			Lab Sampl	e ID: H6067715
evel (low/med): LOW_			Date Rece	eived: 04/12/96
Solids:	_51.	6	,		
Co	ncentration	Units (ug,	/L or mg/kg dry	weight):	MG/KG
	<u> </u>	1			 1
	CAS No.	Analyte	Concentration	C Q	M
	7429-90-5	Aluminum	31400	<u> </u>	P
•	7440-36-0	Antimony_	10.8	บิสนัง	
	7440-38-2	Arsenic	5.6		F
	7440-39-3	Barium	277	- 2	P_
	7440-41-7	Beryllium	1.3		P
		Cadmium	1.3	אג ט	P_
	7440-70-2	Calcium	4550	-2-	P_
*	7440-47-3	Chromium	64.0		P
	7440-48-4	Cobalt	45.8	-	p-
	7440-50-8	Copper	81.5	-	P
	7439-89-6	Iron	59700	- Z	P_
	7439-92-1	Lead	6.0	- - -	F ⁻
	7439-95-4	Magnesium			
	7439-96-5	Manganese	·	2	P_ P
	7439-97-6	Mercury	0.19	 - 	C∇ ,
	7440-02-0	Nickel	40.3		P 5 7
	7440-09-7	Potassium			P Ø 3
	7782-49-2	Selenium	1.7		F
		Silver	1.5		
	7440-23-5	Sodium	224		P
	■ .	1	0.74	U	$ \mathbf{r}^- $
	7440-62-2	Vanadium	188		P P
	7440-66-6	Zinc	86.5	25	P-
	1440-00-0	Cyanide		-	NR
		Cyamrue		_	144
Color Before:	BLACK	Clari	ty Before:		Texture: FINE

Color After: YELLOW___ Clarity After: ____ Artifacts: ____

Comments:

FORM I - IN

1 INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

		THOUGHHIC P	NALYSES DATA	CILL		,	
ATTENDED OF THE OWNER.			Contract . 6	o _ r	N5 - 0140	MJK678	
Name: CHES	LEK_PARMET_		Contract: 6	0 - L	05-0140	·	
Code: CHES	TX Ca	se No.: 245	SS4_ SAS No.	: _	1	SDG No.: 1	MJK671
rix (soil/w	ater): SOIL	- -		La	ıb Sampl	e ID: H606	7716
el (low/med): LOW_	~		Da	te Rece	eived: 04/1:	2/96
olids:	_63.	1.	•				
Co	ncentration	Units (ug/	/L or mg/kg dr	ум	eight):	MG/KG	
						<u> </u>	
	CAS No.	Analyte	Concentration	14	Q	M	
	7429-90-5	Aluminum	37400	-	P5	P	
*	7440-36-0	Antimony	8.8		*445	I	
	7440-38-2	Arsenic	4.9	1 - 1		F	
	7440-38-2	Barium	247		- -	P	
	7440-33-3	Beryllium	0.93		u	P	
	7440-41-7	Cadmium	i.1			P	
	7440-43-9	Calcium	11100			P_	
	7440-70-2	Chromium	151		- <u>2</u> -	P	
			116			P-	
	7440-48-4	Cobalt	91.1			P-	
	7440-50-8	Copper	87800				
	7439-89-6	Iron	2.7			P F	
	7439-92-1	Lead	}			P-	
	7439-95-4	Magnesium	3300			P	
	7439-96-5	Manganese	0.16	1=1			•
	7439-97-6	Mercury_				(P P F P	>
	7440-02-0	Nickel	84.5			P .	•
	7440-09-7	Potassium	345		<u> ۔ بو</u>	F- 3	
	7782-49-2	Selenium_	1.2	B		P- 70 3	•
	7440-22-4	Silver	1.2		ZV 44	P_	
	7440-23-5	Sodium	2200	==	مخيز	P_	
	7440-28-0		0.60			l - _ l	
	7440-62-2	Vanadium_	277			P_	
	7440-66-6	Zinc	77.6	-	E 5	P_	
		Cyanide		-		NR	
or Before:	LT.BROWN_	Clari	ty Before:		-	Texture:	COAR
or After:	YELLOW	Clari	ty After:		_	Artifacts:	
nments:		•				÷	

FORM I - IN

	:	INORGANIC A	ANALYSES DATA S	SHEET		
Lab Name: CHEST	'ER_LABNET_	•	Contract: 68	B-D5-0140	MJK680	
Lab Code: CHEST	'X Cas	se No.: 245	SAS No.	•	SDG No.: N	1JK671
Matrix (soil/wa	ter): SOIL	_	•	Lab Sampl	e ID: H6067	7717
Level (low/med)	: LOW_	_		Date Rece	eived: 04/12	2/96
% Solids:	_58.9	9				
Con	centration	Units (ug	/L or mg/kg dry	y weight):	MG/KG	
	CAS No.	Analyte	Concentration	C Q	М	
	7429-90-5	Aluminum	38100	- - -	P	
	7440-36-0	Antimony_	9.4	U MUJ	P_	
	7440-38-2	Arsenic	6.8	<u>ح سند</u> _	F_	
	7440-39-3	Barium	318		P_	
	7440-41-7	. .	1.1	<u>B</u>	P	
	7440-43-9		1.2	U	P_	
,	7440-70-2	Calcium	8430		P	
	7440-47-3	Chromium_	142		P P	
	7440-48-4	Cobalt	84.2		P_	
	7440-50-8 7439-89-6	Copper	97700		P_ P	
	7439-83-8	Lead	4.2		F	•
	7439-95-4	Magnesium	·		P	
	7439-96-5	Manganese	! —————		P_	
	7439-97-6	Mercury	0.17	0	CV	
	7440-02-0	Nickel	81.4		P	
	7440-09-7	Potassium	370	 		
	7782-49-2	Selenium_	2.1	28	26-3-3 1-8-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1-1	
	7440-22-4		1.3		P_ 7	
·	7440-23-5		774	B		
	7440-28-0	Thallium_	0.65	U	F_ 70 3	
	7440-62-2	Vanadium_	348		P_	
	7440-66-6	Zinc	80.1	_ E 5	P	
		Cyanide		-	NR	•
		1		_	II	
Color Before:	BLACK	Clari	ty Before:		Texture:	FINE_
Color After:	YELLOW	Clari	ty After:		Artifacts:	
Comments:						

FORM I - IN

EPA	SAMPLE	NO.
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	•	INORGANIC A	ANALYSES DATA S	SHEET	, 	
ab Name: CHES	STER_LABNET_		Contract: 68	3-D5-0140	MJK686	
ab Code: CHES	STX Ca	se No.: 245	554_ SAS No.	:	SDG No.: MJK	(671
atrix (soil/v	water): SOIL			Lab Sampl	e ID: H606771	.8
evel (low/med	i): LOW_			Date Rece	eived: 04/12/9	6
Solids:	_69.	1			,	
Co	oncentration	Units (ug,	L or mg/kg dry	y weight):	MG/KG	
	CAS No.	Analyte	Concentration	C Q	M	
	7429-90-5 7440-36-0 7440-38-2	Aluminum_ Antimony_ Arsenic	19500 8.0 7.1	U Prus	P P F	
	7440-39-3 7440-41-7	Barium Beryllium Cadmium Calcium	214 0.76 0.98 6130	B U U	P P P	
	7440-47-3 7440-48-4 7440-50-8	Chromium_ Cobalt_ Copper_	36.4 29.9 29.8	- 2	P P P	
	7439-89-6 7439-92-1 7439-95-4	Iron_ Lead_ Magnesium	36900 10.3 6730		P_ F_ P_	e
	7439-96-5 7439-97-6 7440-02-0	Manganese Mercury_ Nickel_	1970 0.14 27.8	 	P_ CV P_ P	
	7440-09-7 7782-49-2 7440-22-4 7440-23-5	Potassium Selenium_ Silver_ Sodium	771 0.29 1.1 296	B # 5 U # U5	F P	
			0.55 96.9 70.9		P	
	7440-00-0	Cyanide			NR	_
olor Before:	BLACK	Clarit	y Before:	·	Texture: FI	INE
olor After:	YELLOW	Clarit	y After:		Artifacts:	
omments:			\$			

FORM I - IN

1 INORGANIC ANALYSES DATA SHEET

EPA	SAMPLE	NO.

Lab Name: CHESTER L	ABNET	Contract: 68	-D5-0140	MJK687	
Lab Code: CHESTX				SDG No.: M	JK671
Matrix (soil/water)	: SOIL_		Lab Sample	e ID: H6067	719
Level (low/med):	LOW		Date Rece	ived: 04/12	/96
% Solids:	_52.6				•
Concent	ration Units (ug,	/L or mg/kg dry	weight):	MG/KG	•
7440	-90-5 Aluminum_ -36-0 Antimony_	Concentration3580010.6	U #UJ	м Р_ Р_	
7440 7440 7440 7440	-38-2 Arsenic	1.3 6130	B	F_ P_ P_ P_	
7440 7440 7439 7439	-47-3 Chromium Cobalt Copper Iron Lead Magnesium	65.1 46.6 68.7 83100 17.9 7450	- E	P_ P_ P_ P_ F_ P_	
7439 7440 7440 7782	Manganese Personal Manganese Mercury Nickel Potassium Selenium	0.19 40.8 1250 1.0	B WJ	P_CV	
7440 7440 7440	-22-4 Silver Sodium Thallium Vanadium Zinc Cyanide	1.4 216 0.72 223 87.0	B U 47 E 5	P A S	
			_ .		
Color Before: LT.B	ROWN_ Clari	ty Before:	· · · · · · · · · · · · · · · · · · ·	Texture:	COARSE
Color After: YELL	OW Clari	ty After:		Artifacts:	
Comments:		·			·

FORM I - IN

1 INORGANIC ANALYSES DATA SHEET

EPA SAMPLE	NO
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Lab Name: CHES	TED LARMET	•	Contract: 68	3 ~ T	05-0140	М	JK688	
Lab Code: CHES						SDG	No M	
Lab Code: Ches	IA Car	se No.: 24.	54_ 5A5 NO.	• -		000	110	01071
Matrix (soil/w	ater): SOIL	- -		La	ab Sampl	e ID:	H6067	720
Level (low/med): LOW	-		Da	ate Rece	eived:	04/12	/96
% Solids:	_49.	7						•
Co	ncentration	Units (ug,	/L or mg/kg dry	y v	weight):	MG/K	G	
·	CAS No.	Analyte	Concentration	С	Q	М		
	7429-90-5	Aluminum	28700	_	老丁	P_		
	7440-36-0	Antimony_	11.2	ਹ	_ JF UJ	P_		
	7440-38-2	Arsenic	7.5	_		F_		
	7440-39-3	Barium	313	_	_£	P_		
	7440-41-7	Beryllium	1.2		u	P_		
	7440-43-9	Cadmium	1.4			P		
•	7440-70-2	Calcium	4490	_		P	- republic	
	7440-47-3	Chromium_	47.8		_	P	***	
	7440-48-4	Cobalt	20.3	_		P		
•	7440-50-8	Copper	43.6			P		•
	7439-89-6	Iron	41600	-	2	P		
	7439-92-1	Lead	23.7	-		F P		
	7439-95-4	Magnesium		-	- 2 -	P-		
	7439-96-5	Manganese	721	Ū		CV		
	7439-97-6	Mercury_	0.20	10			75)
i e	7440-02-0	Nickel	26.5	=		P P	+ 9	•
•	7440-09-7	Potassium	1100		120 0	F-	7 9	
	7782-49-2	Selenium_ Silver	1.5		W5	P-	ر ک	
	7440-22-4		1.5		דעד	P -		
	7440-23-5 7440-28-0	Sodium	0.76		- Jiř	E-		
•	7440-28-0	Vanadium	139		\ <u> </u>	F_ P		
	7440-66-6	Zinc	69.1		基 5	P-		
	7440.00.0	Cyanide_		-		NR		
				_				
Color Before:	LT.BROWN_	Clari	ty Before:		_	Textu	re:	COARSE
Color After:	YELLOW	Clari	ty After:		<u>.</u> .	Artif	acts:	
Comments:								•
								 -
		:						
	·		 					
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INORGANIC ANALYSES DATA SHEET

EPA	SAMPLE	OM E
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-) CVIDO			Combine of the Co	DE 0140	MJK689	
Lab Name: CHES	_ , _		Contract: 68		·	I
Lab Code: CHES	TX Ca	se No.: 24	SAS No.	:	SDG No.: I	MJK671
Matrix (soil/wa	ater): SOIL	· —		Lab Samp	le ID: H606'	7723
Level (low/med): LOW			Date Rece	eived: 04/1:	2/96
% Solids:	_49.	0				
Co	ncentration	Units (ug	L or mg/kg dry	y weight)	: MG/KG	•
	CAS No.	Analyte	Concentration	C D	M	
•	7429-90-5	Aluminum	23000	- 2 5	P	
		Antimony	11.3		l — l	
		Arsenic	6.0		F-	•
	7440-39-3	Barium	246	- E	P-	
		Beryllium			P	
•	7440-43-9	Cadmium	1.4		P_	
	7440-70-2	Calcium	4300	2	P .	
	7440-47-3	Chromium	36.9		P	
	7440-48-4	Cobalt	20.4	-	P_	
	7440-50-8	Copper	37.9		P_	
•	7439-89-6	Iron	34700	- 2	P	
	7439-92-1	Lead	11.0		F_	•
	7439-95-4	Magnesium	3930	- E	P_	
	7439-96-5	Manganese	1220	- 2	P_	_
	7439-97-6	Mercury	0.20	0	CV .≥)
		Nickel	25.0		P	
	1	Potassium	926		P_ x y	
•	7782-49-2	Selenium_	0.69		F_	
	7440-22-4	Silver	1.6		P_	
	7440-23-5	Sodium	174		P_	
	7440-28-0	Thallium_	0.78		F_	
	7440-62-2	Vanadium_	95.4		P	
	7440-66-6	Zinc	64.8	<u> </u>	P_	
		Cyanide		_	NR	
	l	1		_	II	•
Color Before:	GREY	Clarit	ty Before:		Texture:	FINE
Color After:	YELLOW	Clari	ty After:	·	Artifacts:	
Comments:	•			:		
				· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·	· .
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		· · · · · · · · · · · · · · · · · · ·				

FORM I - IN

EPA	SAMPLE	NO
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				MADISES DATA S			1	
b Na	nme: CHES	TER LABNET		Contract: 68	3-I	05-0140		MJK692
				SS4_ SAS No.			SDG	No.: MJK67
		ater): SOIL): H6067724
		•						3 04/10/06
evel	(low/med): LOW	_	,	Da	ate Rece	eivec	i: 04/12/96
Soli	ids:	_52.	9					
	Co	ncentration	Units (ug,	L or mg/kg dry	y v	veight)	MG/	′KG
		CAS No.	Analyte	Concentration	C	Q	M	
	•	7420 00 5	Aluminum	25100	-	# 5	P_	
		7429-90-5	Aluminum_ Antimony_	10.5	Ū	2FUJ	P_	
		7440-36-0 7440-38-2	Arsenic	6.0	٦		F_	
			Barium	308	-	2	P-	
•		7440-39-3	Beryllium	1.2	듬		P-	
			Cadmium	1.3	TT	75	P-	
		7440-43-9		4690			P-	
		7440-70-2		46.4	-		127	e conf. Operation operation (operation) operation (operation)
			Chromium_	21.4	-		P_	
			Cobalt				P	
		7440-50-8	Copper	44.2			P_	
		7439-89-6	Iron	42200	-	_£	F	
		7439-92-1	Lead	13.1	_		P-	· •
			Magnesium	4980	-	- 2	-	Z,
			Manganese	974	_	_==	P_ CV	\mathcal{A} $\dot{\mathfrak{I}}$
		7439-97-6	Mercury	0.24	_			X, ,
		7440-02-0	Nickel	25.6	=		P P	3
		7440-09-7	Potassium	777		_ 		
			Selenium_	0.87		- X J	F_	
		7440-22-4	Silver	1.4		PUJ	P P	
		7440-23-5	Sodium	177			15-1	
		7440-28-0	Thallium_	0.72			F_	
		7440-62-2	Vanadium_	136		l <u>-</u>	P_	•
		7440-66-6	Zinc	69.2	-	<u> </u>	P_	
			Cyanide		-		NR	
າໄດະ	Before:	GREY	Clarit	ty Before:	. —		Teyt	ure: FINE
JIŲI	Derore:	Old I	CIGIL	of perore.		-	LONG	
olor	After:	YELLOW	Clari	ty After:		_	Arti	ifacts:
ommei	nts:		,	•				
				 				

FORM I - IN

1 INORGANIC ANALYSES DATA SHEET

tab Nama: CUES	ייים אם אייי		Contract: 6	8-05-0140	MJK693
					SDG No.: MJK671
Matrix (soil/w			_		e ID: H6067725
Level (low/med	l): LOW	- 		Date Rece	ived: 04/12/96
% Solids:	64.			,	
-			/L or mg/kg dr	y weight):	MG/KG
	CAS No.	Analyte	Concentration	C Q	м
	7440-36-0 7440-38-2 7440-39-3	Aluminum_ Antimony_ Arsenic_ Barium_ Beryllium Cadmium_ Calcium_ Chromium_ Cobalt_ Copper_ Iron_ Lead_ Magnesium Manganese Mercury_ Nickel_ Potassium Selenium_ Silver_ Sodium_ Thallium Vanadium_ Zinc_	1.1 2350 17.2 17.0 14.7 22200 7.9 2220 710 0.16 5.4	U X U X U X U X U X U X U X U X U X U X	
		Cyanide			NR
Color Before:	GREY		ty Before:		Texture: FINE
Color After:	YELLOW	Clari	ty After:		Artifacts:
Comments:					
		<u> </u>			

FORM I - IN

DEM OMNERIE IN	EPA	SAMPLE	NO
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ah Name: CHE	STER LABNET		Contract: 68	8-D	5-0140		MJK673
			554_ SAS No.			SI	OG No.: MJK67
		4					•
Matrix (soil/	water): SOIL	-		La	.b Samp.	Le I	D: H6067727
revel (low/me	d): LOW_	- -		Da	te Rece	eive	ed: 04/12/96
Solids:	54.	1					
	_						
C	oncentration	Units (ug,	/L or mg/kg dry	y w	eight)	: MG	G/KG
	1	T	,			,ı	
	CAS No.	Analyte	Concentration	C	Q	M	
				_		ll	
	7429-90-5	Aluminum	41100		老丁	P_	
	7440-36-0	Antimony	10.3	ט	AT UJ	P_ F	,
	7440-38-2	Arsenic	3.6	B		F_	
	7440-39-3	Barium	283	1 1	2	P_ P_	
	7440-41-7	Beryllium	f	B		P	<i>2</i>
		Cadmium	1.3			P-	,
	7440-70-2	Calcium	7720	, ,		P_	
	7440-47-3	Chromium	126	-	-	P-	erie de
	1	·	73.6	1-1		P-	
	7440-48-4	Cobalt		1-1		P	
	7440-50-8	Copper	99.6	-			*
	7439-89-6	Iron	88300	1-1	E	P_ F	
	7439-92-1	Lead	3.7	-		1-	-
	7439-95-4	Magnesium		1-1	₹	P_	
	7439-96-5	Manganese	2640	1_1	2	P_	44
	7439-97-6	Mercury_	0.18	U		CV	> /
	7440-02-0	Nickel	54.1			P_	
	7440-09-7	Potassium	403	ט		P	
¥	7782-49-2	Selenium	2.6		-	F	
	7440-22-4	Silver	1.4	ਹਿ	JYU5	P_	
	7440-23-5	Sodium	257			P	
	7440-28-0	Thallium	0.70		47	F_	
	7440-62-2	Vanadium	282			P	1.
	7440-66-6	Zinc	85.2		2 3	P-	
•	7440-00-0		83.2	1-1		NR	
		Cyanide		-		IVIC	
	I	·	·	11		١	
Color Before:	GREY	Clari	ty Before:		-	Tex	xture: FINE
Color After:	YELLOW	Clari	ty After:		- .	Art	tifacts:
Comments:	•						
	•	•					
							"

FORM I - IN

EDA	SAMPLE	$N\cap$
DFA	OMMETIC	TAO.

· · · · · · · · · · · · · · · · · · ·					MJK683
Lab Name: CHES	rer_labnet		Contract: 6	8-D5-0140 _.	
Lab Code: CHES	TX Cas	se No.: 245	SAS No.	•	SDG No.: MJK671
Matrix (soil/wa	ater): SOIL	- -		Lab Samp	le ID: H6067728
Level (low/med): LOW_	_	•	Date Rec	eived: 04/12/96
% Solids:	_50.0	ס			
Co	ncentration	Units (ug,	/L or mg/kg dr	y weight)	: MG/KG
	1	<u> </u>	· · · · · · · · · · · · · · · · · · ·	T T	1 1
•	CAS No.	Analyte	Concentration	C Q	М
	7429-90-5	Aluminum	42100		P
	7440-36-0	Antimony_	11.1	U FUS	P_ P_
	7440-38-2	Arsenic	1.9	B 5	F ⁻
	7440-39-3	Barium	239		P
	7440-41-7	Beryllium			P_
	7440-43-9	Cadmium	1.4		P_
	7440-70-2	Calcium_	6970		P_ P_ P_ P_ P_ F
	7440-47-3	Chromium_	109		P_
	7440-48-4	Cobalt	79.0		P
	7440-50-8	Copper	104		P_
	7439-89-6	Iron	93000		<u>P</u> _
	7439-92-1	Lead	8.6		F_
	7439-95-4	Magnesium			
•	7439-96-5	Manganese	2370	- 	P_CV P_P_F
	7439-97-6	Mercury	1	"	
	7440-02-0	Nickel	49.8	=	P_ A >
	7440-09-7 7782-49-2	Potassium Selenium	1.2		F- •
	7440-22-4	Silver	1.5		1 *1
	7440-23-5	Sodium Sodium	302		P_
	7440-28-0	Thallium	0.76		F_
	7440-62-2	Vanadium	298		P
	7440-66-6	Zinc	103		
	7110 00 0	Cyanide		-	NR
			·	'-'	
Color Before:	GREY	Clari	ty Before:		Texture: FINE_
Color After:	YELLOW	Clari	ty After:		Artifacts:
Comments:		-			
· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·	•			
					
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FORM I - IN

EDV	SAMPLE	MO
EPA	SAMPLE	NO

	<u> </u>					MJK694
b Name: CHES	TER_LABNET_		Contract: 68	3 - 1	J5-0140	1
b Code: CHES	STX Ca	se No.: 24!	SAS No.	: _		SDG No.: MJK67
trix (soil/w	ater): WATE	R	•	Lá	ab Sampl	le ID: H6067712
vel (low/med	l): LOW_	<u> </u>		Da	ate Rece	eived: 04/11/96
Solids:	0.	0				
Co	ncentration	Units (ug,	/L or mg/kg dry	, v	weight)	: UG/L_
	1	1		·		<u></u>
	CAS No.	Analyte	Concentration	С	Q .	M
	7429-90-5	Aluminum	39.8	$\overline{\mathtt{B}}$		P
	7440-36-0	Antimony_	27.8		·	P-
	7440-38-2	Arsenic	2.9			F-
•	7440-39-3	Barium	1.0			P P
	7440-41-7	Beryllium				P_
-		Cadmium	3.4			P
	7440-70-2	Calcium	1080			P
·	7440-47-3	Chromium	4.3	ָט		P
	7440-48-4	Cobalt		Ū		P
	7440-50-8	Copper	4.6			P_
	7439-89-6	Iron	47.3			p P
	7439-92-1	Lead	0.90			P_ F
	7439-95-4	Magnesium	41.1			
	7439-96-5	Manganese	2.1		u	P
	7439-97-6	Mercury	0.20	U		c⊽ 5 5
	7440-02-0	Nickel	12.6	บ	·	P
•	7440-09-7	Potassium	1090	U		P P CV P P
	7782-49-2	Selenium	1.0	U		F
	7440-22-4	Silver	3.8	บ		P
	7440-23-5	Sodium	365	В		P .
	7440-28-0	Thallium	1.9	U	- FF	F
	7440-62-2	Vanadium_	4.0	U		P
	7440-66-6	Zinc	44.3			[P_]
		Cyanide			l	NR
		1				l <u> </u>
or Before:	COLORLESS	Clarit	ty Before: CLEA	AR_	- .	Texture:
lor After:	COLORLESS	Clari	ty After: CLE	AR_	<u> </u>	Artifacts:
mments:						
,					·	

FORM I - IN

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1 INORGANIC ANALYSES DATA SHEET

EPA SAMPLE N

Lab Name: CHES	red 1.dener	v	Contract: 69	8-D5-0140	MJK695
				•	SDG No.: MJK671
Matrix (soil/wa	ater): WATE	₹	·	Lab Sampl	e ID: H6067726
Level (low/med): LOW	- .		Date Rece	eived: 04/12/96
% Solids:	0.0)			
Co	ncentration	Units (ug)	/L or mg/kg dry	y weight):	UG/L
30.	,				_ · ' _
	CAS No.	Analyte	Concentration	c Q	M
	7429-90-5	Aluminum_	34.0		P_
·		Antimony_	27.8	ן דיייין דיי	P
	7440-38-2	Arsenic	2.9	<u>u</u>	F_
	7440-39-3	Barium	1.0		P_
3	7440-41-7	Beryllium	0.30		P_ P_
	7440-43-9	Cadmium Calcium	706		r_
•	7440-70-2	Chromium_	4.3		D-
	7440-48-4	Cobalt	4.9		p-
	7440-50-8	Copper	4.6		P_ P_ P_ P_ P_ F
	7439-89-6	Iron	33.8		P-
	7439-92-1	Lead	0.90		F
	7439-95-4	Magnesium	41.1	ט –	
	7439-96-5	Manganese	1.8	BU	P_ 3
	7439-97-6	Mercury	0.20	ט –	
	7440-02-0	Nickel	12.6		P
	7440-09-7	Potassium			<u>P</u> _
÷	7782-49-2	Selenium_	2.8		F_
	7440-22-4	Silver	3.8		P_
	7440-23-5	Sodium	228		P
	7440-28-0	Thallium_	1.9		F_
	7440-62-2	Vanadium_ Zinc	4.0		P
•	7440-66-6	Cyanide	38.6	-	P_ NR
		Cyanitue		-	MI
	I			· _ · ·	· · · · · · · · · · · · · · · · · · ·
Color Before:	COLORLESS	Clari	ty Before: CLE	AR_	Texture:
Color After:	COLORLESS	Clari	ty After: CLE	AR_	Artifacts:
Comments:					
					•
					· · · · · · · · · · · · · · · · · · ·

FORM I - IN



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY REGION 10

1200 Sixth Avenue Seattle, Washington 98101

June 13, 1996

REPLY TO

ATTN OF: OEA-095

MEMORANDUM

SUBJECT: Data Validation for Camp Adair, Case# 24554, SDG # MJK682,

Metals analysis

FROM: Donald Matheny, Chemist

Quality Assurance & Data Unit, OEA

TO:

Mark Ader, Project Manager

Office of Environmental Cleanup

The validation of metals analysis for case # 24554, SDG # MJK682 is complete. Three soil samples were analyzed for metals by Chester LabNet of Houston, TX. The samples were numbered:

MJK682 (A/2 MJK684

MJK685

DATA QUALIFICATIONS

The following comments refer to the laboratory's performance in meeting quality control specifications outlined in the "CLP Statement of Work (CLP-SOW) for Inorganic Analysis, TLMO4.0", and the "USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review, EPA-540/R-94-013". Data qualifications presented herein are based on the information provided for the review.

1.0 TIMELINESS - Acceptable

The holding time from the date of collection to the date of digestion and analyses were met for all metals (180 days, mercury 28 days). Samples were collected on 04/11/96 and analyzed via ICP-AES on 05/06/96, GFAA on 05/07/96 thru 05/16/96 and mercury analysis on 04/25/96. Laboratory verification of cooler temperature (4°C) upon receipt was documented.

TO Jeff Kesmer From Dan Mathematical Phone # 653 - 2599

Film 1 233-9570

NSN 7640 01 317 7388 5099-101 GENERAL SERIVICES ADMINISTRATION

2.0 INSTRUMENT CALIBRATION/VERIFICATION

22206 553 8210

For ICP-AES analysis, instrument calibration was performed with a blank and single calibration standard for each element meeting the calibration requirement.

For GFAA analysis, instrument calibration was performed with a blank and four standards (except for lead used three standards). Correlation coefficients met the linearity requirement (≥ 0.995) except for lead (0.971). As a result, all lead data were qualified "J".

For CVAAS mercury analysis, instrument calibration was performed with a blank and five standards. The calibration curve had a correlation coefficient of 0.994 which did not meet the linearity criterion (≥ 0.995). As a result, all mercury data were qualified "J" or "UJ".

Calibration verification for ICP-AES, GFAA and Hg CVAA analyses was performed in accordance with the required frequency (10%) and the recovery range (90-109%) met the recovery criteria (ICP/GFAA; 90-110%, CVAA; 80-120%). CRDL standards were analyzed at the required frequency and concentration.

3.0 ICP-AES INTERFERENCE CHECK SAMPLE (ICS) - Acceptable

Percent recoveries for the ICS met the 85-118% recovery criterion (80-120%) and the frequency requirements for analysis (5%). No interferences are suspected based upon ICS performance and indigenous elemental concentrations.

LABORATORY CONTROL SAMPLES (LCS) - Acceptable

All metals results for the LCS were within the control limit established for soils.

5.0 BLANKS

Results for all blanks were non-detected or below a factor of 5 times that found in associated samples with the exception of the beryllium (CCB; 0.8 ug/l). As a result, all samples were qualified "U" for beryllium.

6.0 MATRIX SPIKE ANALYSIS

Percent recoveries for matrix spike samples (88-119%) were within the limits of 75-125% with the exception of antimony (68%), arsenic (11%), lead (50%), selenium (48%) and silver (37%). As a result, all samples for these elements were qualified "J" or "UJ".

7.0 DUPLICATE SAMPLE ANALYSIS - Acceptable

Sample duplicate relative percent differences (<4%) met the \pm 35% (or \pm 2 X CRDL) criterion for soils.

8.0 ICP-AES SERIAL DILUTION

Results for the five-fold serial dilution met the \pm 10% difference criterion with the exception of zinc (50%). As a result, all zinc data were qualified "J".

9.0 Graphite Purnace Atomic Absorption QC

Analytical spike recoveries and method of standard addition (MSA) determinations met the technical criterion with the exception of the following:

- The analytical spike recovery for arsenic was 39% for MJK685 (sample absorbance was > 50% of the analytical spike). This sample was qualified "J" for arsenic.
- The correlation coefficient (0.993) from the MSA determination for lead in sample MJK684 did not meet the linearity requirement (≥0.995). This sample was qualified "J" for lead.

10.0 Laboratory Contact

The laboratory was contacted on June 4, 1996 to resolve the following discrepancies.

- Lead and selenium values for MJK682 were transcribed incorrectly. Corrected Form 1, 5A, 6 and 8 were requested for submittal.
- LCSS true values identified on Form 7 did not match those identified in the raw data for all GFAA elements (indicating non-compliant recoveries for selenium and thallium). The reported analytical value for selenium also did not match the raw data. A corrected Form 7 was requested.

The laboratory responded on June 11, 1996 with the corrected Forms (facsimile). A copy of the laboratory contact sheet is attached.

11.0 ASSESSMENT SUMMARY

The following is a summary of the qualified data:

All beryllium data were qualified (U) due to the presence of beryllium in an associated blank sample. All mercury data were qualified (J or UJ) due to a low correlation coefficient of the instrument calibration curve. All lead data were qualified (J) due to a low correlation coefficient of the instrument calibration curve and a low matrix spike recovery. In addition, MJK684 was also qualified (J) due to a low

22206 555 6210

correlation coefficient for the MSA determination of lead. All antimony, arsenic, selenium and silver data were qualified (J or UJ) due to low spike recoveries. Results for all antimony, selenium, silver data and for samples MJK682 and MJK685 for arsenic may be biased low. Bias for the arsenic result for MJK684 could not be determined due a high analytical spike recovery for this sample. Additional (J) qualification for the arsenic result for MJK685 occurred due to a low analytical spike recovery. All zinc data were qualified (J) due to a high percent difference in the serial dilution result. Zinc results may be biased low.

The following contains a list of data qualifiers and their definitions.

DATA QUALIFIERS

- IJ The material was analyzed for, but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.
- J The associated value is an estimated quantity.
- The data are unusable. (Note: Analyte may or may not be R present.)
- UJ The material was analyzed for, but was not detected. The associated value is an estimate and may be inaccurate or imprecise.

U.S. EPA - CLP

INORGANIC ANALYSES DATA SHEET

CA12

EPA SAMPLE NO.

MJK682

		armente '	T.ADNET	Contract:	68-D5-0140	1	
Lab	Name:	CHESTER_	labnet	4554 SAS NO	n . :	SDG No.:	MJK682
Lab	Code:	CHESTX	Case No.: 2	4554 \$65 56	· .		201

Lab Sample ID: H6071701

Date Received: 04/15/96

Matrix (soil/water): SOIL_ Level (low/med): LOW__

_58.9

& Solids:

Concentration Units (ug/L or mg/kg dry weight): MG/KG

AS No.	Analyte	Concentration	C	Q	M P		
7429-90-5 7440-36-0 7440-38-2	Aluminum_ Antimony_ Arsenic_	48500 9.6 12.0	B	-#- <u>7</u>	P F		•
7440-35-2 7440-39-3 7440-41-7 7440-43-9	Barium Beryllium Cadmium	<u>_</u> 1.2	U	u	P_ P_	·•.	
7440-70-2 7440-47-3 7440-48-4	Calcium_ Chromium_ Cobalt	7510 104 79 8			PPPP		
7440-50-8 7439-89-6 7439-92-1	Copper	116 85400 6.4		_ _K 1	P_F		· .
7439-95-4 7439-96-5 7439-97-6	Magnasium	0.1			P P CV P		
7440-02-0 7440-09-7 7782-49-2	Nickel Potassium	1.	B	-624-3	P	- 7 a. 1	
7440-22-4 7440-23-5 7440-28-0	Silver_ Sodium_	37	7 E		P	- DM	6/13/46
7440-62-2 7440-66-6	Vanadium			#3		2	

Color Before:	Brown	Clarity Before:	Texture: FIN	E
Connents:		•		- -
			TT.M	- - 04 - (

PORM I - IN

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Revised

In Reference to Case No(s):

Contract Laboratory Program REGIONAL/LABORATORY COMMUNICATION SYSTEM Telephone Record Log

			·
Date of Call:	June 4, 1996		
	at 1		
• •	Chester Lab/Ne	+ - Houston	
Lab Contact:	Mary Cruz	· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·
Region:	10		-
Regional Contact:	Dan Matheny		
Call Initiated By:	Laboratory	<u>×</u> Region	· · · · · · · · · · · · · · · · · · ·
In reference to data for	the following sample	number(s);	
MIKL82, Forms	5A,4,8,7		
1			
Summary of Questions/I	sense Discussed		
<u>Leal and Selenium</u>	•		
Subsequent values	and recoveries on	Forms 5A, 6 and	8 are also
in correct.			
True Values for	GFAA clements in	, the LCSS on the	Form 7 Sid not
match those calcu	lated in the recus	Datus The reporte	d Selevino value
for the LCSS was	when incorrect.		
	•		
Summary of Resolution:			
•		. 0	
Corrections on Fr	STMS WELE LEEK	(MAL Jan	
<u></u>	2001201		1 .
<u>_ A</u>	LUXV-YLV		4/12/96
Signa	ature		Date

Distribution: (1) Lab Copy, (2) Region Copy, (3) SMO Copy

U.S. EPA - CLP

CA14

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

			÷		•	MJK684	
Lab Nar	ne: CHESTER_	LABNET	 .	Contract:	68-D5-0140		<u>. </u>

Lab Code: CHESTX Case No.: 24554_ SAS No.: ____ SDG No.: MJK682

Matrix (soil/water): SOIL_ Lab Sample ID: H6071704

Level (low/med): LOW____ Date Received: 04/15/96

* Solids: _55.6

Concentration Units (ug/L or mg/kg dry weight): MG/KG

	1	(
CAS No.	Analyte	Concentration	С	Q	M
7429-90-5	Aluminum	47900	-		P_
7440-36-0	Antimony	10.0	Ū	-11- 7-	P_
7440-38-2	Arsenic	11.5		W# 7	F_
7440-39-3	Barium	239	_		P
7440-41-7	Beryllium	1.4	B	u	P
7440-43-9	Cadmium	1.2	Ū		P
7440-70-2	Calcium	6870			P_
7440-47-3	Chromium	112	_		P
7440-48-4	Cobalt	84.0			P
7440-50-8	Copper	104	-		P
7439-89-6	Iron	95600	-		P
7439-92-1	Lead	16.5		+N+5	F
7439-95-4	Magnesium	8900	_		P
7439-96-5	Manganese	2440	[-		P
7439-97-6	Mercury	0.18	Ū	43	CV
7440-02-0	Nickel	50.5			P
7440-09-7	Potassium	1100	B		P
7782-49-2	Selenium	1.1	В	#M* 3	F
7440-22-4	Silver	1.4	ט	-# us	P
7440-23-5	Sodium	337	В		P
7440-28-0	Thallium	0.68	ט		F
7440-62-2	Vanadium	306	-		P
7440-66-6	Zinc	101	-	-F-5	P
	Cyanide		-		NR
			-		J

W13196

Color Befor	e: BROWN	Clarity Before:	Texture: FINE
Color After	YELLOW	Clarity After:	Artifacts:
Comments:			

FORM I - IN

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U.S. EPA - CLP

CA15

INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

Lab Name: CHESTER_LA	BNETCo	ntract: 68-D5-0140	MJK685
Lab Code: CHESTX	Case No : 24554_	SAS No.:	SDG No.: MJK682
Matrix (soil/water):	SOIL_	Lab Samp	ole ID: H6071705
Level (low/med):	LOW	Date Rec	ceived: 04/15/96
% Solids:	_65.6	•	

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	Ċ	Q	M	
7429-90-5	Aluminum	47600	-		P	
7440-36-0	Antimony_	10.5	B	₩ 2	p	
7440-38-2	Arsenic	18.0		# 5	F_	•
7440-39-3	Barium	172	_		p _	•.
7440-41-7	Beryllium	0.89	B	U	P	·
7440-43-9	Cadmium	1.0	U		P	
7440-70-2	Calcium	8010			P	1
7440-47-3	Chromium	148	-		P	į
7440-48-4	Cobalt	91.8	-	•	P_	
7440-50-8	Copper	81.3	-		P	
7439-89-6	Iron	82200	-		P-	
7439-92-1	Lead	4.0	_	*** 5	F	
7439-95-4	Magnesium	10700	-		P	U/13/46
7439-96-5	Manganese	2460	_		β	100
7439-97-6	Mercury	0.22	-	5	CŪ	1.13196
7440-02-0	Nickel	70.9	_		P	1
7440-09-7	Potassium	332	Ū		P	
7782-49-2	Selenium	1.3		BN-5	\mathbf{F}^{-}	
7440-22-4	Silver	1.2		-X-WT	P_	
7440-23-5	Sodium	548			P_	
7440-28-0	Thallium	0.58			F	
7440-62-2	Vanadium	293]		P	
7440-66-6	Zinc	90.9	1-	平丁	P	
	Cyanide		1-		NR	1
			-	l	[•

Color	Before:	BLACK	Clarity Before:		Texture: FINE_
Color	After:	YELLOW	Clarity After:		Artifacts:
Comme	nts:			•	
					

FORM I - IN

ILM04.0



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY REGION 10

1200 Sixth Avenue Seattle, Washington 98101

Reply To

Attn Of:

OEA-095

July 23, 1996

MEMORANDUM

SUBJECT:

Data Validation Report for Munitions Analysis of

Samples from Camp Adair

FROM:

Ginna Grepo-Grove, Chemist

Office of Environmental Assessment

TO:

Mark Ader, SAM/WAM

Office of Environmental Clean-up

The quality assurance (QA) review of 21 soil and 2 water samples collected from the above referenced site has been completed. The samples were analyzed for trace explosives in accordance with SW846 - Method 8330, Nitroaromatics and Nitroamines by High Performance Liquid Chromatography (HPLC) from the Test Methods for Evaluating Solid Waste: Physical/Chemical Methods 3rd edition (9/94) and the regional laboratory guidelines at the USEPA Manchester Environmental Laboratory, Port Orchard, WA. The following samples were reviewed in this report:

96152351	96152352	96152353	96152354
96152355	96152356	96152357	96152358
96152359	96152360	96152362	96152363
96152364	96152365	96152366	961523 67
96152368	96152369	96152371	961523 72
96152373	96152374	96152375	

DATA QUALIFICATIONS

The following comments refer to the laboratory performance in meeting the Quality Control Specifications outlined in the SW846 - Methods 8330 and 8000, the Manchester Environmental Laboratory Quality Assurance Manual (revision 5/88), the Sampling and Quality Assurance Plan for Camp Adair and the USEPA CLP National Functional Guidelines for Organic Data Review, 2/94.

The conclusions presented herein are based on the information provided for the review.

Holding Time

All of the samples were extracted and analyzed within the technical (40 CFR 136) and method required holding times with the exception of samples 96152374 and 96152375. The analytical holding times (40 days from extraction) for these samples were exceeded by 17 days. Due to possible low bias, the reported results for samples 96152374 and 96152375 were qualified as estimated, "UJ". The pertinent sample collection, laboratory receipt, extraction and analysis dates are tabulated in Table 1-Holding Time Summary attached at the end of this report.

Instrument Performance

A Perkin Elmer HPLC with diode array detection and a C18 column was used for the analyses. All initial identification and quantitation was based on the 255 nm wavelength on the instrument's A channel. The samples and standards were not analyzed on a secondary (CN reverse phase) column. Preliminary confirmations were made based on the ratio of absorbance of the A and B channels with a final check done by full spectrum UV scan for the peak of interest. Due to retention time shifts, each analytical run was manually checked for the detected target compounds. Note: Sample results were not qualified based on channel B responses due to the following reasons: (1) the quantitation was performed on the A channel (2) channel B was only used for confirmation of detected results (3) large variability of instrument responses for the target compounds in channel B.

Initial Calibration

The minimum five point initial calibration specified by the method was not met. Two four-point initial calibration curves were attempted by the laboratory. However, peak distortions and problems with chromatographic resolutions and solvent interferences were encountered. None of the target compounds were detected in any of the samples. Using professional judgment, the reviewer dropped either the low or high standard responses in the calculation of the percent relative standard deviations (%RSDs). The target compounds HMX, RDX, 1,3,5trinitrobenzene (TNB), 1,3-dinitrobenzene, 2,4-dinitrotoluene and 3-nitrotoluene in the soil initial calibration exceeded the %RSD QC limit (30%). The quantitation limits for these compounds in the associated samples were qualified as estimated, "UJ". ng standard for the soil initial calibration did not give responses for tetryl and 4-amino-2,6-dinitrobenzene. quantitation limits for these compounds in the associated samples were qualified as estimated, "UJ". All of the water sample results were already qualified due to holding time exceedances, no further qualification is required.

Continuing Calibration

The criteria for frequency and percent differences (%Ds) as compared to the mean calibration factors calculated from the initial calibrations were met with the following exceptions:

Date & Time of Analysis	Instr.	Compound	%D	Qualifier Non-detect
5/20/96 0748PM	PE	ХМН	-43.5	บัง
		2-nitrotoluene	49	None
		4-nitrotoluene	40	None
5/21/96 1256AM	PE	нмх	-47	บัง
5/21/96 12:15/12:39PM	PE	НМХ	-51.1	נט
		RDX	60.2	None
		2,4-dinitrotoluene	103	None
	·	tetryl	32.7	None
		2-amino-4,6-dinitrobenzene	41.4	None
		4-amino-2,6-dinitrobenzene	47.9	None
6/20/96 0553PM	PE	НМХ	128	None
		RDX	-30	บัง

The non-detects for compounds with response factors indicating higher sensitivity when compared with the initial calibration responses were not qualified. HMX and RDX results were already flagged due to the initial calibration or holding time criteria, no further qualification is required.

Quantitation Limits - Acceptable

The sample analyses met the method required quantitation limits (QLs). The reported QLs were adjusted for sample size and percent moisture.

Blanks - Acceptable

All blanks met the criteria for frequency of analysis. None of the target compounds were detected in the method blanks.

Surrogates - Not Applicable

Surrogates were not added to the samples and QC samples.

Matrix Spike/Matrix Spike Duplicate (MS/MSD)

Samples 96152363, 96152371 and 96152375 were used for MS/MSD analyses. Due to the restrictions on the amount of sample, only the matrix spike analysis was performed for the water sample, 96152375. The frequency of analysis and technical acceptance criteria were met for all analyses with these exceptions:

- QC samples 96152363 HMX was not recovered; 12% RDX recovered in MSD; 241% TNB recovered in MSD.
- QC samples 96152371 low recoveries for tetryl (36% and 28% for MS and MSD, respectively).
- QC sample 96152375 tetryl not recovered; low recoveries for 2-nitrotoluene, 4-nitrotoluene and 3-nitrotoluene (31%, 41% and 18%, respectively).

Due to possible low bias, HMX in all samples were qualified as unusable, "R"; tetryl, a very unstable compound, was qualified as estimated, "UJ", in soil samples and unusable, "R", in the associated water sample. All of the other compounds listed above were already qualified based on the previouly discussed QC parameters, no further qualification is required on this basis.

Compound Identification

All of the detected target compounds were preliminarily confirmed using the channel B responses. Final check was done by the full UV spectral scan. A secondary column confirmation was not performed.

There were no transcription or calculation errors observed between the raw data and the reported results.

Overall Assessment

The samples were analyzed in accordance with the method specifications with a few minor deviations. The most restrictive qualifier was applied to the results, in cases where more than one qualifications are needed. Data results are acceptable as qualified and can be used for all purposes.

Table 1- Holding Time Summary

Sample No.	Matrix	Collection Date	VTSR*	Extraction	Munitions Analysis
96152351	soil/sed.	04/09/96	04/11/96	04/23/96	05/20/96
96152352	soil/sed.	04/10/96	04/12/96	04/23/96	05/20/96
96152353	soil/sed.	04/11/96	04/15/96	04/23/96	05/20/96
96152354	soil/sed.	04/09/96	04/11/96	04/23/96	05/20/96
96152355	soil/sed.	04/09/96	04/11/96	04/23/96	05/20/96
96152356	soil/sed.	04/09/96	04/11/96	04/23/96	05/20/96
96152357	soil/sed.	04/09/96	04/11/96	04/23/96	05/20/96
96152358	soil/sed.	04/10/96	04/12/96	04/23/96	05/20/96
96152359	soil/sed.	04/09/96	04/11/96	04/23/96	05/20/96
96152360	soil/sed.	04/10/96	04/12/96	04/23/96	05/20/96
96152362	soil/sed.	04/11/96	04/15/96	04/23/96	05/20/96
96152363	soil/sed.	04/11/96	04/15/96	04/23/96	05/20/96
96152364	soil/sed.	04/11/96	04/15/96	04/23/96	05/20/96
96152365	soil/sed.	04/11/96	04/15/96	04/23/96	05/20/96
96152366	soil/sed.	04/10/96	04/12/96	04/23/96	05/20/96
96152367	soil/sed.	04/10/96	04/12/96	04/23/96	05/20/96
96152368	soil/sed.	04/10/96	04/12/96	04/23/96	05/20/96
96152369	soil/sed.	04/10/96	04/12/96	04/23/96	05/20/96
96152371	soil/sed.	04/09/96	04/11/96	04/23/96	05/20/96
96152372	soil/sed.	04/10/96	04/12/96	04/23/96	05/20/96
96152373	soil/sed.	04/10/96	04/12/96	04/23/96	05/20/96
96152374	water	04/10/96	04/12/96	04/15/96	06/06/96
96152375	water	04/10/96	04/12/96	04/15/96	06/06/96

^{*} VTSR - Verified Time of Sample Receipt

DATA OUALIFIERS

- The analyte was not detected at or above the reported result.
- J The analyte was positively identified. The associated numerical result is an estimate.
- R The data are unusable for all purposes.
- N There is evidence the analyte is present in this sample.
- NJ There is evidence that the analyte is present. The associated numerical result is an estimate.
- UJ The analyte was not detected at or above the reported estimated result. The associated numerical value is an estimate of the quantitation limit of the analyte in this sample.

25-Jun-96

96152351 Sample: 8330

Collected: 9-Apr-96

Method:

Received: 11-Apr-96

Project:

Instrument:

Camp Adair Perkin

Source :

(g)(mL)

Elmer

Mass (g): % solids:

11.4 70.1%

Detector:

UV 255nm

·280nm-

Extractor:

S.Reimer

Extracted:

23-Apr-96 20-May-96

Analyst:

S.Reimer

Analyzed: Review

d by:

		Reviewed
wed:		

TARGET COMPOUND	CAS#	Vt(mL)	Vi(μL) =======	ng.i	mg/kg ====== 1 2.50	====================================
HMX RDX 1,3,5-TRINITROBENZEN 1,3-DINITROBENZENE NITROBENZENE TETRYL 2-amino,4,6,-DNB 4-amino,2,6,-DNB 2,4,6-TRINITROTOLUENE 2,4-DINITROTOLUENE 2,6-DINITROTOLUENE 4-NITROTOLUENE 3-NITROTOLUENE	2691410 121824 99354 99650 98953 479458 35572782 1946510 118967 121142 606202 88722 99990 99081	20 20 20 20 20 20 20 20 20 20 20 20 20 2	100 100 100 100 100 100	25 25 102 103 104 104 105 106 106 	0.63 0.63 0.63 0.63 0.63 0.63	u) u) u) u u u u u u 63 u 63 u 63

Date: 25-Jun-96

Sample: 96152352 Collected : 9-Apr-96

Method: 8330 Received: 11-Apr-96

Project: Camp Adair Source :

Instrument: Perkin
Elmer Mass (g): 5.82 (g)(mL)

Detector: UV 255nm % solids: 39.1%

280nm % solids: 39.1%

Extracted: 23-Apr-96 Extractor: S.Reimer Analyzed: 20-May-96 Analyst: S.Reimer

Reviewed: Reviewed by:

TARGET COMPOUND	CAS#	Vt(mL) Vi(μL)	ng.i	mg/kg	Comments
=======================================	=======	=====	= ====	====	======	=======	
HMX	2691410	2	0	100	100	8.79	NA
RDX	121824	2	0 .	100	25	2.20	u j
1,3,5-TRINITROBENZEN	99354	1 2	0 "	100	. 25	2.20	ujj
1,3-DINITROBENZENE	99650	2	0	100	25	2.20	u j
NITROBENZENE	98953	2	0	100	25	2.20	u
TETRYL	479458	2	0	100	25	2.20	uJ
2-amino,4,6,-DNB	35572782	1 . 2	0	100	. 25	2.20	u
4-amino, 2, 6, -DNB	1946510	2	0	100	25	2.20	U J
2,4,6-TRINITROTOLUEN	118967	2	0	100	25719	0,88	u 220
2,4-DINITROTOLUENE	121142	2	0	100	25-10.	0 88	u J 2,20
2,6-DINITROTOLUENE	606202	2	0	100	521þ	0.88	u 2,20
2-NITROTOLUENE	88722	2	0	100	25/0	0.88	u 2,20
4-NITROTOLUENE	99990	2	0	100	. uf0	0.88	u 2,2.
3-NITROTOLUENE	99081	2	0	100	2910 3R	0.88	uJ 2,20



Source:

Collected: 9-Apr-96

Received: 11-Apr-96

25-Jun-96

96152353 Sample:

8330

Camp Adair Project: Perkin Instrument:

Elmer

UV 255nm Detector:

280nm

Mass (g):

5.33

(g)(mL)

54.0% % solids:

Extracted:

23-Apr-96

Extractor:

S.Reimer

Analyzed:

20-May-96

Analyst:

S.Reimer

Reviewed:

Method:

TARGET COMPOUND ===================================	CAS # ====== 2691410 121824	Vt(mL) ====== 20 20	Vi(μL) ====== 100 100	ng.i ===== 100 25	mg/kg ====== 6.95 1.74 1.74	•
1.3,5-TRINITROBENZEN 1.3-DINITROBENZENE NITROBENZENE TETRYL 2-amino,4,6,-DNB 4-amino,2,6,-DNB 2.4-6-TRINITROTOLUENE 2.6-DINITROTOLUENE 2-NITROTOLUENE 4-NITROTOLUENE 3-NITROTOLUENE	99354 99650 98953 479458 35572782 1946510 118967 121142 606202 88722 99990 99081	20 20 20	100 100 100 100 100 100 100 100	25 25 25 25 25 25 25 25	0.69 0.69	u u u u u u u u u u

Date: 25-Jun-96

Collected: 9-Apr-96

Received: 11-Apr-96

Source:

Camp Adair

Perkin

96152354

8330

Elmer

Mass (g): 5.42 (g)(mL) % solids: 65.6%

Detector: UV 255nm

280nm

Extracted: 23-Apr-96

Extractor:

S.Reimer

Analyzed: 20-May-96

Analyst: S.Reimer

Reviewed:

Sample:

Method:

Project:

Instrument:

Reviewed by:

TARGET COMPOUND	CAS#	Vt(mL)	Vi(μL)	ng.i	mg/kg	Comments
=======================================	=======	======	======	======	=======	
HMX	2691410	20	100	100	5.63	ary .
RDX .	121824	20	100	25	1.41	ارد
1,3,5-TRINITROBENZEN	99354	20	100	25	1.41	ا ر د
1,3-DINITROBENZENE	99650	20	100	25	1.41	J
NITROBENZENE	98953	20	1 100	25	1.41	1
TETRYL	479458	1 20	100	1 25	1.41	ا لاد
2-amino,4,6,-DNB	35572782	20	100	25	1.41	1
4-amino, 2, 6, -DNB	1946510	20	100	1 25	1.41	u J
2,4,6~TRINITROTOLUEN	118967	20	100	1 55/0	Q.56 1	1 1, 41
2,4-DINITROTOLUENE	121142	20	100	25-10	0)56	J 1.41
2,6-DINITROTOLUENE	606202	20	100	2510	1 0/46	1,41
2-NITROTOLUENE	88722	20	100	1 2510	0.\$ 6 €	1 1.71
4-NITROTOLUENE	99990	20	100	1 2510	\$ \$6.56 to	1,41
3-NITROTOLUENE	99081	20	100	est0,	ا <u>0.56</u> ا	الد

e fitter

25-Jun-96

96152355 Sample:

Collected: 9-Apr-96

Method:

8330

Received: 11-Apr-96

Project:

Camp Adair

Source :

Perkin Instrument: Elmer

Mass (g):

(g)(mL) 6.27

Detector: UV 255nm % solids:

63.5%

280nm

Extractor:

S.Reimer

Extracted: Analyzed: 23-Apr-96 20-May-96

Analyst:

S.Reimer

Reviewed:

TARGET COMPOUND	CAS#	Vt(mL)	Vi(μL)	ng.i	mg/kg	Comments
HMX RDX 1,3,5-TRINITROBENZEN 1,3-DINITROBENZENE NITROBENZENE TETRYL 2-amino,4,6,-DNB 4-amino,2,6,-DNB 2,4,6-TRINITROTOLUENE 2,4-DINITROTOLUENE 2-NITROTOLUENE 4-NITROTOLUENE 3-NITROTOLUENE	2691410 121824 99354 99650 98953 479458 35572782 1946510 118967 121142 606202 88722 99990 99081	====== 20	10 1 10 1 10 1 10	0 25 0 25 0 25 0 25 0 25	1.26 1.26 1.0.50 1.0.50 1.0.50	u

Source :

Collected: 9-Apr-96

Received: 11-Apr-96

25-Jun-96

Sample:

96152356

8330

Project: Instrument:

Method:

Camp Adair Perkin

Elmer

UV 255nm Detector:

280nm

Mass (g):

% solids:

5.34 81.1% (g)(mL)

Extracted:

23-Apr-96

Extractor:

S.Reimer

Analyzed: 20-May-96 Analyst:

S.Reimér

Reviewed:

			•			,
TARGET COMPOUND	CAS#	Vt(mL)	Vi(μL)	ng.i	mg/kg	Comments
	=======	======	=======	======	========	===========
НМХ	2691410	20	100	. 100	4.62	nRV
RDX	121824	20	100	25	1.15	u J
1,3,5-TRINITROBENZEN	99354	20	100	25	1.15	u J
1,3-DINITROBENZENE	99650	1 20	100	25	1.15	ս J
NITROBENZENE	98953]. 20 -	100	25] 1.15	u
TETRYL	479458	20	100	25	1.15	uJ .
2-amino,4,6,-DNB	35572782	20	100	25] 1.15	u
4-amino,2,6,-DNB	1946510	20	100	25	1.15	u J
2,4,6-TRINITROTOLUEN	118967	J 20	100	1 2510	0,46	u 1.15
2,4-DINITROTOLUENE	121142	20	100	2510	0.46	u J 1.15
2,6-DINITROTOLUENE	606202] 20	100	1 2570	1 0.46	u 1,15
2-NITROTOLUENE	88722	20	100	2510	0.46	u 1.75
4-NITROTOLUENE	99990	20	100	1 2570	1 0.46	u ///5
3-NITROTOLUENE	99081	20	100	ر 10 ادد ا	0.46	u J ///5-
	=======	======	=======	======	=======	=========



Date: 25-Jun-96

Collected: 9-Apr-96

Received: 11-Apr-96

Source :

Camp Adair
Perkin

Elmer

Mass (g): 6

Mass (g): 6.27 (g)(mL) % solids: 71.9%

Detector: UV 255nm

280nm

96152357

8330

S.Reimer

Extracted: 23-Apr-96
Analyzed: 20-May-96

Analyst:

S.Reimer

Analyzed: 20-Ma

Sample:

Method:

Project:

Instrument:

Reviewed by:

Extractor:

Comments mg/kg ng.i Vi(μL) Vt(mL) CAS# TARGET COMPOUND ====== ====== ====== 4.44 × R 100 100 20 2691410 1.11 u J 25 HMX 100 1 20 | 121824 1.11 uJ 25 RDX 100 20 99354 1,3,5-TRINITROBENZEN 1.11 uJ 25 100 20 | 99650 1.11 u 1,3-DINITROBENZENE 25 | 100 20 | 98953 .1.11 uJ NITROBENZENE 25 100 20 | 479458 1.11 u 25 TETRYL 100 20 35572782 1.11 uJ 2-amino, 4, 6, -DNB 25 100 20 1946510 4-amino,2,6,-DNB 0144 u 1.11 25-10 100 20 | 118967 2,4,6-TRINITROTOLUEN 0|44 u | 1,11 2,710 100 20 | 121142 2.4-DINITROTOLUENE 0 44 u ٦þادر 100 1.11 20 | 606202 2,6-DINITROTOLUENE 0|44 u 2570 1.11 100 20 88722 2-NITROTOLUENE 100 2570 1.11 20 99990 4-NITROTOLUENE 2510 100 20 99081 3-NITROTOLUENE

all fall

25-Jun-96

96152358 Sample:

Collected: 9-Apr-96

Method:

8330

Received: 11-Apr-96

Project:

Camp Adair

Source :

Instrument:

Perkin

Elmer

Mass (g):

6.56

Detector: UV 255nm % solids:

71.4%

280nm

(g)(mL)

Extracted:

23-Apr-96 20-May-96 Extractor: Analyst:

S.Reimer S.Reimer

Analyzed:

Reviewed:

TARGET COMPOUND	CAS#	Vt(mL)	Vi(μL)	ng.i	mg/kg	Comments
=======================================	=== ===	======	=======	======	=======	
HMX . I	2691410	20	† · 10	0 100	4.27	ja RV
RDX	121824	20	10	0 25	1.07	սյ
1.3,5-TRINITROBENZEN	99354	20	10	0 25	1.07	u)
1,3-DINITROBENZENE	99650	20	10	0 25	1.07	uJ
NITROBENZENE	98953	20	10	0 25	1.07	u
TETRYL	479458	20	10	0 25	1.07	uJĮ
2-amino,4,6,-DNB	35572782	20	100	0 25	1.07	u
4-amino,2,6,-DNB	1946510	20	100	0 25	1.07	u J
2,4.6-TRINITROTOLUEN	118967	J 20	100	01/25 0	0.43	u 1,07
2.4-DINITROTOLUENE	121142	20	100	0 1 2010	0.43	u J /.07
2.6-DINITROTOLUENE	606202	20	100	סדוב 0	1 0.43	u 1.07
2-NITROTOLUENE	88722	20	100	0 25 0	0.43	u /,0)
4-NITROTOLUENE	99990	20	100	0 2570	0.4 \beta	u 1,07
3-NITROTOLUENE	99081	20	100) 21TD	0.43	u J 1.07
		=====	=======	: =======	* =======	



25-Jun-96

96152359 Sample:

Collected: 9-Apr-96

Method:

8330

Received: 11-Apr-96

Project:

Camp Adair

Source:

Instrument:

Perkin Elmer

Mass (g):

5.72 (g)(mL)

UV 255nm Detector:

280nm

% solids:

67.8%

Extracted:

23-Apr-96

Extractor:

S.Reimer

20-May-96 Analyzed:

Analyst:

S.Reimer

Reviewed:

TARGET COMPOUND	CAS#	Vt(mL)	Vi(μL)		ng.i	mg/kg		Comments
=======================================	=======	=====	=====	=== {		=======	. 1	
НМХ	2691410	20	1,	100	100	5.16	V R	ال الله الله الله الله الله الله الله ا
RDX	121824	20	} :	100	. 25	1.29	U J	
1,3,5-TRINITROBENZEN	99354	20	1	100	25	1.29	u J	
1,3-DINITROBENZENE	99650	20	1	100	25	1.29	սյ	
NITROBENZENE	98953	20	1	100	25	1.29	u	
TETRYL	479458	20	1	100	25	1.29	u J	
2-amino,4,6,-DNB	35572782	20	1	100	25	1.29	u	
4-amino, 2, 6, -DNB	1946510	20	1	100	25	1.29	u J	•
2,4,6-TRINITROTOLUEN	118967	20	1	100	25 0	0.52	u	1.25
2,4-DINITROTOLUENE	121142	20	1	100	2570	0/52	u J	1, 29
2,6-DINITROTOLUENE	606202	20	1	100	2510	0.52	u	
2-NITROTOLUENE	88722	1 20	1	100	2510	0.\$2	u	1,29
4-NITROTOLUENE	99990	20	1	100	2510	0.\$2	น	1,25
3-NITROTOLUENE	99081	20	1	100	25td	0.52	ս Մլ	1.29

Date: 25-Jun-96

96152360 Sample: Collected: 9-Apr-96

Method: 8330 Received: 11-Apr-96

Project: Camp Adair Source:

Perkin Instrument: Elmer Mass (g): 6.53 (g)(mL)

UV 255nm Detector: % solids: 56.5%

280nm

Extracted: 23-Apr-96 Extractor: S.Reimer

Analyzed: 20-May-96 Analyst: S.Reimer

Reviewed: Reviewed by:

TARGET COMPOUND	CAS#	Vt(mL)	Vi(μL)	ng.i	mg/kg	Comments
=======================================	=======	=====	=======	=====	=======	
НМХ	2691410	20	100	100	5.42 v	4
RDX	121824	1 20	100	25	1.36 u	11
1,3,5-TRINITROBENZEN	99354	20	100	25	1.36 u	<u></u>
1,3-DINITROBENZENE	99650	20	100	25	1.36 u	11
NITROBENZENE	98953	1 20	100	25	1.36 u	•
TETRYL	479458	20	100	25	1.36 u	J
2-amino,4,6,-DNB	35572782	1 20	100	25	1.36 u	1
4-amino,2,6,-DNB	1946510	20	100	25	1.36 u	ً إذ
2,4,6-TRINITROTOLUEN	118967	20	100	25-10	0.54 u	1 1.36
2,4-DINITROTOLUENE	121142	1 20	100	1 25-10) 0.\$4 u	J 1.36
2,6-DINITROTOLUENE	606202	20	100	2510	0.54 u	11.36
2-NITROTOLUENE	88722	20	100	2510	0.\$4 u	1.34
4-NITROTOLUENE	99990	J 20	100	1 2510	J 0.\$4 u	11.36
3-NITROTOLUENE	99081	20	100	2570	0.54 u	JI 1.30
	=======	======	=======	======	=======	===============

25-Jun-96

96152362 Sample:

Collected: 9-Apr-96

Method:

Received: 11-Apr-96

Project:

8330 Camp Adair

Perkin

Source:

(g)(mL)6.25

Instrument:

Elmer

Mass (g):

Detector:

UV 255nm

% solids:

60.8%

280nm

Extracted:

23-Apr-96

Extractor: Analyst: S.Reimer S.Reimer

Analyzed:

20-May-96

Reviewed by:

Reviewed:

				Comments
Vt(mL)	$Vi(\mu L)$	ng.i	mg/kg	=====================================
=====	1 100	1 100	5.26	*A
20 20	100	25	1.32	u J

CAS# TARGET COMPOUND ====== ===== 2691410 **HMX** 121824 1.32 uJ25 | RDX 100 | 20 | 99354 1,3,5-TRINITROBENZEN ارu 1.32 25 | 100 20 | 99650 1.32 u 1,3-DINITROBENZENE 25 | 100 20 98953 1.32 uJ NITROBENZENE 25 100 20 | 479458 1.32 u 25 | TETRYL 100 20 35572782 1.32 uJ 2-amino,4,6,-DNB 25 100 20 1946510 | 0.53 1.32 4-amino,2,6,-DNB 2,-110 u 100 20 | 2,4,6-TRINITROTOLUEN 118967 u J 1.32 25-10 100 20 | 121142 2,4-DINITROTOLUENE u 1.32 25-10 100 20 606202 0.532,6-DINITROTOLUENE u | 1.52 100 | 20 | 88722 u 2-NITROTOLUENE 1,32 91/10 100 20 99990 0.53 uJ4-NITROTOLUENE 1.32 100 20 99081 3-NITROTOLUENE

Date: 25-Jun-96

Collected: 9-Apr-96

Received: 11-Apr-96

Source :

Project: Camp Adair Perkin Instrument:

Elmer

96152363

8330

Mass (g): 5.10 (g)(mL)

UV 255nm Detector:

280nm

% solids: 62.4%

Extracted:

Sample:

Method:

23-Apr-96

Extractor:

S.Reimer

20-May-96. Analyzed:

Analyst:

S.Reimer

Reviewed:

TARGET COMPOUND	CAS#	Vt(mL)	Vi(μL)		ng.i	· mg/kg	Comments
	=======	=====	====	===	======		
НМХ	2691410	20	1	100	100	6.28	y At
RDX	121824	- 20		100	25	1.57	ս ၂
1,3,5-TRINITROBENZEN	99354	20	1	100	25	1.57	u <u>J</u>
1,3-DINITROBENZENE	99650	20	1	100 (25	1.57	u y
NITROBENZENE	98953	1. 20	1	100	25	1.57	u
TETRYL	479458	20	1	100	25	1.57	u J
2-amino,4,6,-DNB	35572782	20	1	100	25	1.57	u
4-amino, 2, 6, -DNB	1946510	20	•	100	25	1.57	u J
2,4,6-TRINITROTOLUEN	118967	20	1	100	21-10	0.63	u 152
2,4-DINITROTOLUENE	121142	1. 20	1	100	0ا-رو	0.63	ر الا
2,6-DINITROTOLUENE	606202	20	1	100	25-10		u /,>>
2-NITROTOLUENE	88722	20	1	100	25-10	0.6β ·	u 157
4-NITROTOLUENE	99990	20	.1	100	0الوج	1 0.63	u 152
3-NITROTOLUENE	99081	20		100	2,710 	0.63	رد ۱ الس

25-Jun-96

96152364 Sample:

Method:

. 8330

Collected: 9-Apr-96

Project:

Received: 11-Apr-96 Source :

Instrument:

Camp Adair Perkin

Mass (g):

5.09

(g)(mL)

Detector:

Elmer UV 255nm

280nm

38.1% % solids:

23-Apr-96

Extractor:

S.Reimer

Extracted: Analyzed:

20-May-96

Analyst:

S.Reimer

Reviewed:

COMPOUND	CAS#	Vt(mL)	Vi(μL)		ng.i	mg/kg	Comments
TARGET COMPOUND ===================================	0115	Vt(mL) 20 20 20 20 20 20 20 20	Vi(μL) ======	100 100	ng.1 ===== 100 25 25 25 25 25 25 25 25	10.31 2.58 2.58 2.58 2.58 2.58 2.58 2.58 1.03 1.03 1.04 1.00 1.00 1.00	u u u u u u u u u u
J 111111			====				

25-Jun-96

96152365 Sample:

Collected: 9-Apr-96

Method:

8330

Received: 11-Apr-96

Project:

Camp Adair

Source :

Instrument:

Perkin

Elmer

Mass (g):

5.63

(g)(mL)

Detector:

UV 255nm

% solids:

65.2%

280nm

Extracted:

23-Apr-96

Extractor:

S.Reimer

Analyzed:

20-May-96

Analyst:

S.Reimer

Reviewed:

TARGET COMPOUND	CAS#	Vt(mL)	Vi(μL)	. ng.i	mg/kg	Comments
=======================================	=======	=====	=======	======	=======	===========
HMX '	2691410	20	100	100	5.45 v R	L i
RDX !	. 121824	20	100	25	1.36 uj	· ·
1,3,5-TRINITROBENZEN	99354] 20	100	25	1.36 u j	
1,3-DINITROBENZENE	99650	20	100	25	1.36 w	1
NITROBENZENE	98953	20	100	25	1.36 u	1 .
TETRYL	479458	20	100	25	1.36 uJ	1
2-amino,4,6,-DNB	35572782	20	100	25	1.36 u	[
4-amino,2,6,-DNB	1946510	20	100	25	1.36 u J	!
2,4,6-TRINITROTOLUEN	118967	1 20	100	25-10	0.54 u	1.36
2,4-DINITROTOLUENE	121142	20	100	25-10	ر 1 0.4 س	1.36
2,6-DINITROTOLUENE	606202	20	100	25-10	1 0 EM	1,30
2-NITROTOLUENE	88722	20	100	1 2510	1 0 Sh	1.36
4-NITROTOLUENE	99990	20	100	1 2510	0.5/4 u	1,30
3-NITROTOLUENE	99081	20	100	1 254	0.54 u J	1.30

25-Jun-96

95152366 Sample:

Received: 11-Apr-96

Collected: 9-Apr-96

Method:

8330

Source :

Project: Instrument: Camp Adair Perkin

Mass (g):

7.77

(g)(mL)

Elmer

% solids:

70.8%

Detector:

UV 255nm

280nm

Extractor:

S.Reimer

Extracted:

23-Apr-96 20-May-96

Analyst:

S.Reimer

Analyzed:

Reviewed by:

Reviewed:

TARGET COMPOUND	CAS#	Vt(mL)	Vi(μL)	==	ng.i =====	mg/kg	====================================
HMX RDX 1,3,5-TRINITROBENZEN 1,3-DINITROBENZENE NITROBENZENE TETRYL 2-amino,4,6,-DNB 4-amino,2,6,-DNB 2,4,6-TRINITROTOLUENE 2,4-DINITROTOLUENE 2,6-DINITROTOLUENE 4-NITROTOLUENE 4-NITROTOLUENE 3-NITROTOLUENE	2691410 121824 99354 99650 98953 479458 35572782 1946510 118967 121142 606202 88722 99990 99081	20 20 20 20 20 20 20 20		100 100 100 100 100 100 100 100 100 100 100	100 25 25 25 25 25 25 25 25 27 27 27 10 27	0.36	u J u J u J u J u J u J u J s f u J s f u J s f u J s f u J s f

25-Jun-96

Sample: 96152367

Collected: 9-Apr-96

Method:

-

. 3-Api-30

Project:

8330 Camp Adair

Received: 11-Apr-96
Source:

Instrument:

Perkin

.

Elmer

Mass (g):

5.25

(g)(mL)

Detector:

UV 255nm

% solids:

56.1%

280nm

Extracted:

23-Apr-96

Extractor:

S.Reimer

Analyzed:

20-May-96

Analyst:

S. Reimer

Reviewed:

Reviewed by:

TARGET COMPOUND	CAS#	Vt(mL)	Vi(μL)	ng.i	mg/kg	Comments
	=======	======		======	======	=======================================
HMX .	2691410	20	100	100	6,79	v 4
RDX	121824	1 20	1 100	25	1.70	u J
1,3,5-TRINITROBENZEN	99354	20	100	25	1.70	u J
1,3-DINITROBENZENE	99650	20	100	25	1.70	ս_յ
NITROBENZENE	98953	20	100	25	1.70	u
TETRYL	479458	20	100	25	1.70	u J
2-amino,4,6,-DNB	35572782	20	100	25	1.70	u
4-amino,2,6,-DNB	1946510	20	100	25	1.70	uJ
2,4,6-TRINITROTOLUEN	118967	1 20	100	ولے ا	0.68	u 1.70
2,4-DINITROTOLUENE	121142	20	100	1 210	1 0.68	u y 1,20
2,6-DINITROTOLUENE	606202	20	100	2570	1 0.d8	и 1,70
2-NITROTOLUENE	88722	20	100	0 آند ا	0.68	u 1, 20
4-NITROTOLUENE	99990	20	100	1 25 0	0.68	u 1,70
3-NITROTOLUENE	99081	20	100	1 2510	0.68	u 1/170

All lar

25-Jun-96

96152368 Sample:

Collected: 9-Apr-96

Method:

Received: 11-Apr-96

Project:

8330 Camp Adair

Source :

Instrument:

Perkin

Mass (g):

7.71

(g)(mL)

Elmer

Detector:

UV 255nm

280nm

% solids:

48.1%

Extracted:

23-Apr-96

Extractor:

S.Reimer

Analyzed:

20-May-96

Analyst:

S.Reimer

Reviewed:

TARGET COMPOUND	CAS #	Vt(mL)	Vi(μL) ======	ng.i	mg/kg =======	Comments
HMX RDX 1,3,5-TRINITROBENZEN 1,3-DINITROBENZENE NITROBENZENE TETRYL 2-amino,4,6,-DNB 4-amino,2,6,-DNB 2,4,6-TRINITROTOLUENE 2,6-DINITROTOLUENE 2-NITROTOLUENE 4-NITROTOLUENE 3-NITROTOLUENE	2691410 121824 99354 99650 98953 479458 35572782 1946510 118967 121142 606202 88722 99990	20 20 20 20 20 20 20 20	100 100 100 100 100 100 100 100 100 100	25-10 25-10 25-10 25-10 25-10	2.0.	u u u u u 1,35- u 1,35-
· · · · · · · · · · · · · · · · · · ·		==	======			•

25-Jun-96

Sample:

96152369

Collected: 9-Apr-96

Method:

8330

Received: 11-Apr-96

Project:

Camp Adair

Source:

Instrument:

Perkin Elmer

Mass (g):

(g)(mL)

UV 255nm

Detector:

280nm

% solids:

5.60 57.1%

Extracted:

23-Apr-96

Extractor:

S.Reimer

Analyzed:

20-May-96

Analyst:

S.Reimer

Reviewed:

TARGET COMPOUND	CAS#	Vt(mL	.) Vi(μL	.)	ng.i	mg/kg		Comments
=======================================	=======	=====	= ====	====	======		1:	=======================================
HMX	2691410	1 2	20.	100	100	6.25	x q	
RDX	121824	1 2	20	100	25	1.56	u J	
1,3,5-TRINITROBENZEN	99354	1 2	20	100	25	1.56	u J	·
1,3-DINITROBENZENE	99650	1 3	20	100	25	1.56	u J	ř.
NITROBENZENE	98953	1. 3	20	100	25	1.56	u	
TETRYL	479458	1 2	20	100	25	1.56	u J	
2-amino,4,6,-DNB	35572782	1 3	20	100	25	1.56	u	•
4-amino,2,6,-DNB	1946510] 2	20	100	25	1.56	u J	
2,4,6-TRINITROTOLUEN	118967	1 2	20	100	75-10	0.63	u	1.56
2.4-DINITROTOLUENE	121142	1	20	100	25-10	1 0.63	ս ၂	1,56
2.6-DINITROTOLUENE	606202	1 2	20	100	•st.	ι 0.63	u l	•
2-NITROTOLUENE	88722	1 7	20	100	ا المرح	1 0.63	u	1.56
4-NITROTOLUENE	99990	1 2	20	100	21-10	1 0.43	. u /	1.56 1.57
3-NITROTOLUENE	99081	1 2	20	100	25-1¢	0.63	u J '	1.56
**============	=======	=====	= ====	====		======	506	=======================================

25-Jun-96

Sample: Method: 96152371

8330

Project:

Camp Adair

instrument:

Perkin

Elmer

Detector:

UV 255nm

280nm

Extracted:

Analyzed.

23-Apr-96

20-May-96

Reviewed:

Mass (g): % solids:

Source :

9.59

(g)(mL)

60.1%

Collected: 9-Apr-96

Received: 11-Apr-96

S.Reimer

Analyst:

S.Reimer

Reviewed by:

Extractor:

TARGET COMPOUND	CAS#	Vt(mL)	Vi(μL)	ng.i	mg/kg	Comments
HMX RDX 1.3.5-TRINITROBENZEN 1.3-DINITROBENZENE NITROBENZENE TETRYL 2-amino,4,6,-DNB 4-amino,2,6,-DNB 2.4.6-TRINITROTOLUENE 2.6-DINITROTOLUENE 2-NITROTOLUENE 4-NITROTOLUENE 3-NITROTOLUENE	99650 98953 479458 35572782 1946510	20 20 20 20 20 20 20 20	10 10 10	25 25 26 27 27 27 28 29 29 20 20 21 20 20 20 21 20 20 20 20 20 20 20 20 20 20 20 20 20	3.47 0.87 0.87 0.87 0.87 0.87 0.87 0.35 0.35 0.35 0.35 0.35	u u u u u u u u u u

25-Jun-96

96152372 Sample:

Collected: 9-Apr-96

Method:

8330

Received: 11-Apr-96

Project:

Camp Adair

Source:

Instrument:

Perkin Elmer

Mass (g):

6.71

(g)(mL)

Detector:

UV 255nm

280nm

% solids:

49.1%

Extracted:

23-Apr-96

Extractor:

S.Reimer

Analyzed:

20-May-96

Analyst:

S.Reimer

Reviewed:

TARGET COMPOUND	CAS#	Vt(mL)	Vi(μL)	ng.i	mg/kg	Comments
		=====	=======	=====	=======	
HMX	2691410	20	100	100	6.07	v Ry
RDX	121824	20	100	25	1.52	ונים
1,3,5-TRINITROBENZEN	99354	20	100	25	1.52	u j
1,3-DINITROBENZENE	99650	20	100	25	1.52	սյ
NITROBENZÉNE	98953	20	100	25	1.52	u
TETRYL	479458	20	100	25	1.52	u J
2-amino,4,6,-DNB	35572782	20	100	25	1.52	u .
4-amino,2,6,-DNB	1946510	20	100	25	1.52	սյլ
2.4,6-TRINITROTOLUEN	118967	20	100	2510	0/61	u /,52
2,4-DINITROTOLUENE	121142	20	100	2510	0.61	u J /, 5 2
2,6-DINITROTOLUENE	606202	20	100	2010	1 0.41	u /,5 2
2-NITROTOLUENE	88722] 20	100	2510	0.61	u 1,52
4-NITROTOLUENE	99990	20	100	2510.	0.∮1	u / 52
3-NITROTOLUENE	99081	20	100	2510	0.61	u 1 / 52

25-Jun-96

96152373 Sample:

Collected: 9-Apr-96

Method:

8330

Received: 11-Apr-96

Project:

Camp Adair

Source:

Instrument:

Perkin

Mass (g):

5.43 70.1%

Detector:

Elmer UV 255nm % solids:

(g)(mL)

280nm

Extractor:

S.Reimer

Extracted: Analyzed: 23-Apr-96 20-May-96

Analyst:

S.Reimer

Reviewed:

TIRGET COMPOUND	CAS#	Vt(mL)	Vi(μL)	ng.i	mg/kg	Comments
TARGET COMPOUND ===================================	CAS # ====== 2691410 121824 99354 99650 98953 479458 35572782 1946510 118967 121142 606202 88722 99990 99081	Vt(mL) ====== 20 20 20 20 20 20 20 20	======= 100 100 100 100 100 100 100 100 100	===== 100 25 25 25 25 25 25 25 25	======= 5.25 1.31 1.31 1.31 1.31 1.31 0.53 0.53	=====================================

Date: 25-Jun-96

Sample: 96152374 Collected : 9-Apr-96

Method: 8330 Received: 11-Apr-96

Project: Camp Adair Source:

Elmer Vol.: 970.0 (mL)

Detector: UV 255nm

280nm

Perkin

Instrument:

Extracted: 15-Apr-96 Extractor: S.Reimer

Analyzed: 6-Jun-96 Analyst: S.Reimer Reviewed: Reviewed by:

TARGET COMPOUND	CAS#	Vt(mL)	Vi(μL)	ng.i	μg/L	Comments
	=======	=====	=======	=====	========	
HMX	2691410	20	100	100	21 ws	rir -
RDX	121824	1. 20	100	25	5 u	1
1,3,5-TRINITROBENZEN	99354	20	100	25	5 u	
1,3-DINITROBENZENE	99650	1 20	100	25	5 u	1
NITROBENZENE	98953	20	100	25	J 5 u	
TETRYL	479458	20	100	25	1 5 u	1
2-amino,4,6,-DNB	35572782	20	100	25	5 u	
4-amino,2,6,-DNB	1946510	20	100	25	[5 u	
2,4,6-TRINITROTOLUEN	118967	20	100	1 2510	7 u	15
2,4-DINITROTOLUENE	121142	20	100	2510	2 u	15
2,6-DINITROTOLUENE	606202	20	100	2110	2 u	15
2-NITROTOLUENE	88722	20	100	2510	2 ս	١٤٠
4-NITROTOLUENE	99990	20	100	2510	/ 2 u,	15
3-NITROTOLUENE	99081	20	100	2510	2 u	115
	=======	=====	======	=====	====== <i>9</i>	1 =========

A MAN

25-Jun-96

96152375 Sample:

Collected: 9-Apr-96

Method:

8330

Received: 11-Apr-96

Project:

Camp Adair Perkin

Source :

Instrument:

Vol.:

(mL) 470.0

Detector:

Elmer UV 255nm

280nm

Extracted:

15-Apr-96

Extractor:

S.Reimer

Analyzed:

6-Jun-96

Analyst:

S.Reimer

Reviewed:

		Vt(mL)	Vi(μL)	ng.i	μg/L	Comments
TARGET COMPOUND	CAS#	vi(mb)	ν (μυ) =	======	======	=========
HMX RDX	2691410 121824	20 20	100 100 100	100	43 11 11	u b
1,3,5-TRINITROBENZEN 1,3-DINITROBENZENE NITROBENZENE TETRYL 2-amino,4,6,-DNB 4-amino,2,6,-DNB 2,4,6-TRINITROTOLUEN 2,4-DINITROTOLUENE 2,6-DINITROTOLUENE	99354 99650 98953 479458 35572782 1946510 118967 121142 606202	20 20 20 20 20 20 20 20	100 100 100 100 100 100 100	25 25 25 25 25 25 25 25	11 11 11 11 11	
2-NITROTOLUENE 4-NITROTOLUENE 3-NITROTOLUENE	88722 99990 99081	20 20 20	100	2519	1 1 2 ======	u

96152363u Sample:

Date: 25-Jun-96

Collected: 9-Apr-96

8330 Method: Camp Adair

Received: 11-Apr-96

Project: Perkin Source :

Instrument:

(g)(mL)

. Elmer

Mass (g):

5.32

UV 255nm Detector:

280nm

62.3% % solids:

Extracted:

23-Apr-96

Extractor:

S.Reimer

Analyzed: 20-May-96

Analyst:

S.Reimer

Reviewed:

TARGET COMPOUND	CAS#	Vt(mL)	Vi(μL)		ng.i	mg/kg	٠	Comments
=======================================	=======	======	=====	===	======	=======	==:	
НМХ	2691410	20	1	100	100	6.03	u	not recovered
RDX	121824	20		100	58	3.48	. 1	115%
1,3,5-TRINITROBENZEN	99354	20	1 .	100	46	2.78	1	92%
1,3-DINITROBENZENE	99650	20	1	100	36	2.15	1	71%
NITROBENZENE	98953] 20	1	100	36	2.15	1 .	71%
TETRYL	479458	20	1	100	25	1.51	u	
2-amino,4,6,-DNB	35572782	20	+j.	100	25	1.51	u	
4-amino,2,6,-DNB	1946510	20	1	100	25	1.51	u	•
2,4,6-TRINITROTOLUEN	118967	20	1	100	39	2.35	1	78%
2,4-DINITROTOLUENE	121142	20	1	100	- 38	2.31	·	76%
2,6-DINITROTOLUENE	606202	20	1	100	5240	0.760	u 1,5°	1
2-NITROTOLUENE	88722	20	1	100	2540	0. ∮ 0	u 1,51	
4-NITROTOLUENE	99990	20	1 .	100	25-10	0. <i>6</i> p	u 11,51	•
3-NITROTOLUENE	99081	20	1	100	25-10	0.60	u 1,51	

Collected: 9-Apr-96

25-Jun-96

Sample: Method:

96152363v miles quite key

8330

Camp Adair

Project: Instrument:

Perkin

Elmer

UV 255nm Detector:

280nm

Mass (g): % solids:

Date:

Source :

Received: 11-Apr-96

5.53 62.3% (g)(mL)

Extracted:

23-Apr-96

Extractor:

S Reimer

Analyzed:

20-May-96

Analyst:

S.Reimer

Reviewed:

TARGET COMPOUND ============ HMX RDX 1.3.5-TRINITROBENZENE 1.3-DINITROBENZENE NITROBENZENE TETRYL 2-amino,4,6,-DNB 4-amino,2,6,-DNB 2.4,6-TRINITROTOLUENE 2.4-DINITROTOLUENE 2.6-DINITROTOLUENE 2-NITROTOLUENE 4-NITROTOLUENE	121142 606202 88722 99990	20	100 100 100	` 1.	mg/kg ======= 5.81 u 0.34 7.00 1.54 1.50 1.45 u 1.45 u 1.45 u 1.56 1.52 0.58 u 0.58 u 0.58 u 0.58 u	1,45
4-NITROTOLUENE 3-NITROTOLUENE	99990	20 20 =====	1 100	-72	1	11.45

25-Jun-96

Sample: 96152371w yatrir spile

Collected: 9-Apr-96

Method:

8330

Received: 11-Apr-96

Source:

Project: Instrument: Camp Adair

Perkin

Elmer

Mass (g):

7.11

(g)(mL)

Detector:

UV 255nm

% solids:

60.1%

-280nm

23-Apr-96

Extractor:

S.Reimer S.Reimer

Extracted: Analyzed:

20-May-96

Analyst:

Reviewed:

TARGET COMPOUND	CAS#	Vt(mL)	$Vi(\mu L)$	ng.i	mg/kg	Comments
32222222222222	=======	======	======	= =====	=======	_======================================
HMX	2691410	20] 1	00 100	4.68 u	1.
RDX	121824	20	1	00 25	1.17 u	
1,3,5-TRINITROBENZEN	99354	20	1	00 25	1.17 u	
1,3-DINITROBENZENE	99650	20	1 -	00 25	1.17 u	
NITROBENZENE	98953	20	1	00 25	1.17 u	1 .
TETRYL	479458	20	1	00 18	0.84	36%
2-amino, 4, 6, -DNB	35572782	20	1	00 42	1.97	84%
4-amino,2,6,-DNB	1946510	20	1	00 52	2.43	104%
2,4,6-TRINITROTOLUEN	118967	20	1 .1	00 25-10	0.47 u	1.17
2,4-DINITROTOLUENE	121142	20	1	00. 2570	J. 47. u	11.17
2,6-DINITROTOLUENE	606202	20	1	00 57	2.67	114%
2-NITROTOLUENE	88722	20	1	00 2510	•	1.17
4-NITROTOLUENE	99990	20	1	00 42	1.97 1.	§7 84%
3-NITROTOLUENE	99081	20	1	00 25 10	1 247-u	11,17
		=====	======	======	====== 91	=========

96152371x Matrix July Rep 8330 Sample:

Method: Camp Adair

Project: Perkin Instrument:

Elmer

UV 255nm Detector:

280nm

23-Apr-96 Extracted:

20-May-96 Analyzed:

Reviewed:

25-Jun-96 Date:

Collected: 9-Apr-96

Received: 11-Apr-96

Source :

Mass (g): % solids: 6.56

(g)(mL)

60.1%

S.Reimer

S.Reimer

Reviewed by:

Extractor:

Analyst:

TARGET COMPOUND	CAS#	Vt(mL)	Vi(μL) ====== :	ng.i =====	mg/kg ======	Comments
HMX RDX 1.3.5-TRINITROBENZENE 1.3-DINITROBENZENE NITROBENZENE TETRYL 2-amino.4.6DNB 4-amino.2.6DNB 2.4.6-TRINITROTOLUENE 2.6-DINITROTOLUENE 2-NITROTOLUENE 4-NITROTOLUENE 3-NITROTOLUENE	2691410 121824 99354 99650 98953 479458 35572782 1946510 118967 121142 606202 88722 99990 99081	20 20 20 20 20 20 20 20	100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100 100	100 25 25 25 25 25 14 52 55 25 0 25 10 49 44 47 46 ======	5.07 u 1.27 u 1.27 u 1.27 u 1.27 u 1.27 u 0.71 2.64 2.79 0.51 u 0.51 u 2.49 2.23 2.38 2.33	, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,

25-Jun-96

Sample: 96152375w yellus suike Method: 8330

Collected: 9-Apr-96

Received: 11-Apr-96

Project: Instrument: Camp Adair

Perkin

410.0

Detector:

Elmer UV 255nm Vol.:

Source:

(mL)

280nm

Extracted:

15-Apr-96

Extractor:

S.Reimer

Analyzed:

6-Jun-96

Analyst:

S.Reimer

Reviewed:

TARGET COMPOUND	CAS#	V	(mL)	Vi(μL)			ng.i		μ g/L		Comments
=======================================		===	====	=====	===	=		=			=========
НМХ	2691410	1	20	1	100	1	100	1.	49	u	1
RDX	121824	1.	20	<u> </u>	100	1	25	-	12	u	1
1,3,5-TRINITROBENZEN	99354	1	20	1	100	1	25		12	u	1
1,3-DINITROBENZENE	99650		20	1	100	1	25	1	12	u	1
NITROBENZENE	98953	1 .	20	1	100	1	25	1	12	u	1
TETRYL	479458	1	20	1	100	1	25	ĺ	12	u	not recovered
2-amino,4,6,-DNB	35572782	1	20	1	100	1	126	-	61		126%
4-amino, 2, 6, -DNB	1946510	1	20		100	1	124	1	60		124%
2.4,6-TRINITROTOLUEN	118967		20	1	100	1	2570	1	5	u	112
2,4-DINITROTOLUENE	121142	1	20	1	100.	1	2570	SK	-\$	u	1/2
2,6-DINITROTOLUENE	606202	1	20	1	100	1	91	-	45) (91%
2-NITROTOLUENE	88722	1	20	1	100	1	31	1	15		31%
4-NITROTOLUENE	99990	1	20	1	100	1	41.	1	20		41%
3-NITROTOLUENE	99081	1 .	20	1	100	•	18	1	9		18% 🗸
2,4-DINITROTOLUENE 2,6-DINITROTOLUENE 2-NITROTOLUENE 4-NITROTOLUENE	121142 606202 88722 99990		20 20 20 20		100 100 100 100		2510 91 31 41	 sk 	.5 45 15 20		91% 91% 31%

25-Jun-96

Sample: I

BS6114

4 Blue

Collected: 9-Apr-96

Method:

8330

Conected . 3-7

Project:

Camp Adair

C

Received: 11-Apr-96
Source:

Instrument:

Perkin

Elmer

Mass (g):

5.0

(g)(mL)

Detector:

UV 255nm

% solids:

100.0%

280nm

Extracted:

23-Apr-96

Extractor:

S.Reimer

Analyzed:

20-May-96

Analyst:

S.Reimer

Reviewed:

Reviewed by:

TARGET COMPOUND	CAS#	Vt(mL)	Vi(μL)	ng.i	mg/kg	Comments
	=======	======	=======		======	=======================================
НМХ	2691410	1 20	100	100	1 4.00 u	1
RDX	121824	20	100	25	j 1.00 u	1
1,3,5-TRINITROBENZEN	99354	1 20	100	25	1.00 u	1 .
1,3-DINITROBENZENE	99650	20	100	25	1.00 u	1
NITROBENZENE	98953	20	100	} 25	1.00 u	1
TETRYL	479458	20	100	25	1.00 u	1
2-amino,4,6,-DNB	35572782	20	100	25	1.00 u	
4-amino,2,6,-DNB	1946510	20	100	25	1.00 u	1
2,4,6-TRINITROTOLUEN	118967	20	100	1 25-10	1 04.0 u	1.00
2,4-DINITROTOLUENE	121142	1 20	1 100	9 25-1b	1 · 0.40 u	1,00
2.6-DINITROTOLUENE	606202	20	100	2510	l 0.∳0 u	1.00
2-NITROTOLUENE	88722	1 20	100	1 2510	! 0. 4 0 u	1.00
4-NITROTOLUENE	99990	20	100	25-10	j 0.40 u	1.00
3-NITROTOLUENE	99081	1 20	100	1 25-10	1 0.40 u	11.00
*****	=======	=====	======	======	======= 5/(

Sent per per

25-Jun-96

Sample:

BS6114a

Blank

Collected: 9-Apr-96

Method:

8330

Received: 11-Apr-96 Source:

Project: Instrument: Camp Adair

Perkin

Elmer

Mass (g):

5.0

(g)(mL)

Detector:

UV 255nm

% solids:

100.0%

280nm

Extracted:

23-Apr-96

Extractor:

S.Reimer

Analyzed:

20-May-96 Analyst:

S.Reimer

Reviewed:

TARGET COMPOUND	CAS#	Vt(mL)	Vi(μL)	ng.i	mg/kg	Comments
=======================================	=======	======	=======	======	=======	
HMX .	2691410	20	100	100	4.00 u	1
RDX	121824	20	100	1 25	1.00 u	1
1,3,5-TRINITROBENZEN	99354	20	100	25	1.00 u	1
1,3-DINITROBENZENE	99650	20	100	25	1.00 u	
NITROBENZENE	98953	20	100	25	1.00 u	1
TETRYL	479458	j 20	100	25	1.00 u	1
2-amino,4,6,-DNB	35572782	20	100	25	1.00 u	
4-amino,2,6,-DNB	1946510	20	100	25	1.00 u	1 .
2,4,6-TRINITROTOLUEN	118967	20	100	1 2510	0.40 u	1,00
2,4-DINITROTOLUENE	121142	20	100	25-10	0.40 u	1,00
2,6-DINITROTOLUENE	606202	20	100	1 2(10)	0.40 u	1,00
2-NITROTOLUENE	88722	20	100	25-10	0.#0 u	1,00
4-NITROTOLUENE	99990	20	100	1 2519	} 0.40 u	1,00
3-NITROTOLUENE	99081	20	100	2510	0 40 u	1.00



25-Jun-96

Sample:

BS6114b Manh

Method:

8330

Collected: 9-Apr-96 Received: 11-Apr-96

Project:

Camp Adair

Source :

Instrument:

Perkin

Mass (g):

5.0

(g)(mL)

Elmer

% solids:

100.0%

Detector:

UV 255nm

280nm

23-Apr-96 Extracted:

Extractor:

S.Reimer

Analyzed:

20-May-96

Analyst:

S.Reimer

Reviewed:

HMX 121824 20 100 25 1.00 u	TARGET COMPOUND	CAS# ======	Vt(mL) =====	Vi(μL)	ng.i	mg/kg ======= 4.00 u	Comments
	RDX 1,3,5-TRINITROBENZEN 1,3-DINITROBENZENE NITROBENZENE TETRYL 2-amino,4,6,-DNB 4-amino,2,6,-DNB 2,4,6-TRINITROTOLUENE 2,4-DINITROTOLUENE 2,6-DINITROTOLUENE 2-NITROTOLUENE 4-NITROTOLUENE	121824 99354 99650 98953 479458 35572782 1946510 118967 121142 606202 88722 99990	20 20 20 20 20 20 20 20 20 20 20 20 20 2	100 100 100 100 100 100 100 100 100	25 25 25 25 25 25 25 25	1.00 u 0.40 u 0.40 u 0.40 u 0.40 u 0.40 u	1200 1.00 1.00 1.00

25-Jun-96

Sample:

BW6113 Blank (tho)

Collected: 9-Apr-96

Method:

8330

Received: 11-Apr-96 Source :

Project: Instrument: Camp Adair

Perkin

Elmer

Vol.:

1000.0

(mL)

Detector:

UV 255nm

280nm

Extracted:

15-Apr-96

Extractor:

S.Reimer

Analyzed:

6-Jun-96

Analyst:

S.Reimer

Reviewed:

TARGET COMPOUND	CAS#	Vt(mL)	Vi(μL)	ng.i	μ g/L	Comments
===== ====== .	=======	======	=======	=====	=======	*************
HMX	2691410	1 20	100	100	20 u	
RDX	121824	20	100	25	5 u	
1,3,5-TRINITROBENZEN	99354	20	~ 100	25	5 u	
1,3-DINITROBENZENE	99650	20	100	25	1 5 u	
NITROBENZENE	98953	20	100	25	1 5 u	1
TETRYL	479458	20	100	25	1 5 u	
2-amino,4,6,-DNB	35572782	20	100	25	5 u	1
4-amino,2,6,-DNB	1946510	20	J 100	25	5 u	
2,4,6-TRINITROTOLUEN	118967	<u> 20</u>	100	1 25/0	l 2 u	15.9
2,4-DINITROTOLUENE	121142	20	100	1 2510	1 2 u	15.6
2,6-DINITROTOLUENE	606202	20	100	2510		اج ا
2-NITROTOLUENE	88722	J 20	100	1 251	2 u	15
4-NITROTOLUENE	99990	20	100	1 2570	1 2 u	15_
3-NITROTOLUENE	99081	20	100	2510	1 4 u	ا ⁵

25-Jun-96 BW6106 scal (water) Sample: Collected: 9-Apr-96 8330 Method: Received: 11-Apr-96 Project: Camp Adair Source: Instrument: Perkin Elmer Vol.: 500.0 (mL) UV 255nm Detector: 280nm Extracted: 15-Apr-96 Extractor: S.Reimer

Analyst:

Reviewed by:

Analyzed:

Reviewed:

6-Jun-96

Date:

S.Reimer

TARGET COMPOUND	CAS#	Vt(mL)	Vi(μL)	ng.i	μg/L	Comments
	======	=====	=======	- ======	*======	
HMX	2691410	20	100	1 100	j 40 u	1
RDX	121824	20	1 100	25	10 u	1
1,3,5-TRINITROBENZEN	99354	20	100	25	10 u	1
1,3-DINITROBENZENE	99650	} 20	1 100	1 25	10 u	1
NITROBENZENE	98953	20	100	1 25	10 u	1
TETRYL	479458	20	100	25	10 u	
2-amino,4,6,-DNB	35572782	} 20	} 100	25	10 u	1
4-amino,2,6,-DNB	1946510	1 20	100	25	10 u	
2,4,6-TRINITROTOLUEN	118967	1 20	100	1 25-10	4 u	10
2,4-DINITROTOLUENE	121142	1 20	100	1 25-10	4 u	10
2,6-DINITROTOLUENE	606202	20	100	1 2510	1 4 u	1,0
2-NITROTOLUENE	88722	20	100		4 u	مرا
4-NITROTOLUENE	99990	20	1 . 100		4 u	10
3-NITROTOLUENE	99081	20	100	- 1	dsq	1/0



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY REGION 10

1200 Sixth Avenue Seattle, Washington 98101

Reply To

Attn Of:

OEA-095

RECEIVED

May 2, 1996

MAY 1 6 1996

URS CONSULTANTS

MEMORANDUM

SUBJECT:

Data Validation Report for Volatile Organic (VOA) and Semi-Volatile Organic (BNA) Analysis of Samples from Camp Adair Case: 24554 SDGs: JL893, JL895 and JL916

FROM:

Ginna Grepo-Grove Mehemist

Office of Environmental Assessment

TO:

Mark Ader, SAM/WAM

Office of Environmental Clean-up

The quality assurance (QA) review of 21 soil and 5 water samples collected from the above referenced site has been completed. The samples were analyzed for volatile and semi-volatile organic compounds in accordance with the Contract Laboratory Program (CLP) Statement of Work (SOW) for Organic Analysis (OLMO3.2). The analyses were performed by Compuchem Environmental Corp. located at Research Triangle Park, NC. The following samples were reviewed in this report:

JL893	JL894	JL895	JL896	JL897
JL898	JL899	JL900	JL901	JL902
JL904	JL905	JL906	JL907	JL908
JL909	JL910	JL911	JL913	JL914
JL915	JL916	JL917	JL918	JL919
JL920				

Data Validation Summary

All of the sample analyses met the SOW technical requirements with the following exceptions:

Initial Calibration

The following target compounds exceeded the %RSD QC requirements:

Date & Time of Analysis	Instr.	Compound	%D	Qualifier Detect/ Non-detect
4/16/96 1329	F50054	methylene chloride	60.0	J/UJ
		acetone	43.6	J/UJ
		2-butanone	38.6	J/UJ
		2-hexanone	27.7	J/UJ
4/17/96 1845	F50054	4-methyl-2-pentanone	34.7	J/UJ
4/18/96 0643	F50054	2-butanone	33.9	J/None
		bromoform	27.6	J/None
	·	2-hexanone	35.0	J/None
4/17/96 1159	F50055	chloromethane	34.0	J/UJ
		bromoform	32.7	J/UJ
4/13/96 0048	F50056	chloroethane	43.0	J/UJ
		acetone	34.2	J/UJ
		2-butanone	36.9	J/UJ
·		4-methyl-2-pentanone	32.6	J/UJ
		2-hexanone	51.3	J/UJ
4/18/96 0038	OWA02	2,2'-oxybis(1-chloropropane)	52.3	J/None
		2-nitroaniline	35.5	J/None
		2,4-dinitrophenol	42.3	3/03
4/19/96 1042	OWA02	2,2'-oxybis(1-chloropropane)	60.9	J/None
		2-nitroaniline	39.4	J/None
4/19/96 2011	OWA04	pentachlorophenol	27.6	J/UJ
4/22/96 0144	OWA04	pentachlorophenol	32.8	J/UJ

The compounds listed above were qualified accordingly in the associated samples. The non-detects for compounds with response factors indicating higher sensitivity when compared with the initial calibration response were not qualified.

JL897 was also flagged as a non-detect, "U".

Tentatively Identified Compounds (TICs)

TICs that were found in both the sample and the associated method blank(s) were qualified as unusable, "R". Peaks that were identified as common laboratory contaminants, solvent preservatives, column bleed or aldol condensation products were also qualified as unusable, "R". The rest of the peaks identified as TICs were qualified "JN", tentatively identified at an estimated concentration.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY REGION 10

1200 Sixth Avenue Seattle, Washington 98101

Reply To

Attn Of:

OEA-095

May 2, 1996

MEMORANDUM

SUBJECT:

Data Validation Report for Volatile Organic (VOA) and Semi-Volatile Organic (BNA) Analysis of Samples from Camp Adair Case: 24554 SDGs: JL893, JL895 and JL916

FROM:

Ginna Grepo-Grove, chemist

Office of Environmental Assessment

TO:

Mark Ader, SAM/WAM

Office of Environmental Clean-up

The quality assurance (QA) review of 21 soil and 5 water samples collected from the above referenced site has been completed. The samples were analyzed for volatile and semi-volatile organic compounds in accordance with the Contract Laboratory Program (CLP) Statement of Work (SOW) for Organic Analysis (OLMO3.2). The analyses were performed by Compuchem Environmental Corp. located at Research Triangle Park, NC. The following samples were reviewed in this report:

JL893	JL894	JL895	JL896	JL897
JL898	JL899	JL900	JL901	JL902
JL904	JL905	JL906	JL907	JL908
JL909	JL910	JL911	JL913	JL914
JL915	JL916	JL917	JL918	JL919
JL920				

DATA QUALIFICATIONS

The following comments refer to the laboratory performance in meeting the Quality Control Specifications outlined in the CLP SOW for Organic Analysis (OLMO3.2) and the USEPA CLP National Functional Guidelines for Organic Data Review, 2/94.

The conclusions presented herein are based on the information provided for the review.

2. Initial Calibration

Three five-point initial calibration curves were performed for the volatile organic compounds (VOC) and surrogates. The percent relative standard deviations (%RSDs) ranged from 0.3-60.0%. Two initial calibration curves were performed for the semivolatile organic analysis with %RSDs ranging from 0.0-35.7%. All of the target compounds for both VOA and BNA analyses had relative response factors (RRFs) that were ≥ 0.050 . The following target compounds exceeded the %RSD QC requirements:

		<u> </u>		
Date of Analysis	Instr.	Compound	Qualifier Detects/Non-detects	%RSD
4/13/96	F50054	methylene chloride	J/UJ	97.1
		acetone	J/UJ	31.9
4/17/96	F50054	methylene chloride	J/UJ	30.9
		acetone	J/UJ	90.2
4/13/96	F50056	chloroethane	J/UJ	42.7
4/15/96	F50055	methylene chloride	J/UJ:	33.0
		acetone	J/UJ	53.9
		2-butanone	J/UJ	39.4
		2-hexanone	J/UJ	28.9
4/15/96	OWA04	4-chloroaniline	J/UJ	35.7

The compounds listed above were qualified accordingly in the associated samples.

3. Continuing Calibration

Ten continuing calibration checks were analyzed and evaluated for both analyses. The minimum required RRFs were met for all target compounds and surrogates. The criteria for frequency and percent differences (%Ds) as compared to the mean calibration factors calculated from the initial calibrations were also met with the following exceptions:

4. GC/MS Performance Check - Acceptable

Ten analytical sequences were performed. All of the instrument performance checks used average scans with proper background subtractions and met the ion abundance criteria. All of the standards, samples and QC samples were analyzed within the 12-hour QC period. None of the results were qualified on this basis.

5. Quantitation Limits - Acceptable

The sample analyses met the contract required quantitation limits (CRQLs). The reported CRQLs were adjusted for sample size and percent moisture. Target compounds detected at concentrations less than the CRQLs were qualified as estimated, "J".

6. Blanks

All blanks met the criteria for frequency of analysis. The following target compounds were detected in the method blanks.

Blanks	Date/Time of Analysis	Compound (ppb)	Associated Samples
VBLKD1	4/17/96 1931	methylene chloride (9) acetone (15) 1,1,2-Trichloroethane (1) bromoform (2) 1,1,2,2-Tetrachloroethane (3) styrene (1) xylene (total) (3)	JL897, JL896MS
VBLKN1	4/16/96 1931	methylene chloride (5) acetone (11)	JL896, JL893, JL896MSD
VBLKN2	4/18/96 0423	methylene chloride (5) acetone (5)	JL898, JL899
VBLKN3	4/18/96 0720	methylene chloride (8) acetone (4)	JL901, JL913, JL894, JL900, JL902, JL908, JL910, JL911, JL914, JL915
VBLKE4	4/18/96 1447	methylene chloride (20) acetone (8)	JL909, VHBLK1
VHBLKB7	4/18/96 1738	methylene chloride (5) acetone (8)	SDG: JL893
VBLKG1	4/17/96 0225	methylene chloride (6)	JL895

qualified on the basis of internal standards.

10. Compound Identification - Acceptable

All of the detected target compounds and surrogates were within the retention time windows established from the initial calibration and met the USEPA spectral matching criteria.

There were no transcription or calculation errors observed between the raw data and the reported results.

11. Tentatively Identified Compounds (TICs)

Peaks that were detected in the samples at areas >10% of the internal standards and were not part of the target compound lists were identified as TICs. TICs that were found in both the sample and the associated method blank(s) were qualified as unusable, "R". Peaks that were identified as common laboratory contaminants, solvent preservatives, column bleed or aldol condensation products were also qualified as unusable, "R". The rest of the peaks identified as TICs were qualified "JN", tentatively identified at an estimated concentration.

12. Laboratory Contact

The laboratory was not contacted for this review.

13. Overall Assessment

All of the samples were analyzed in accordance with the SOW specifications. Data results are acceptable and can be used for all purposes.

VOLATILE ORGANICS ANALYSIS DATA SHEET

JL893 Contract: 68D50004

Lab Name: COMPUCHEM ENV. CORP.

Lab Code: COMPU

Case No.: 24554 SAS No.:

SDG No.: JL893

Matrix: (soil/water) SOIL

Lab Sample ID: 796329

Sample wt/vol:

5.0 (g/mL) g

Lab File ID: GH096329B54

Level: (low/med) LOW Date Received: 04/11/96

% Moisture: not dec. 32

Date Analyzed: 04/16/96

GC Column:DB624

ID: 0.53 (mm)

COMPOUND

Dilution Factor: 1.0

Soil Aliquot Volume: (uL)

Soil Extract Volume: (uL)

CAS NO.

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

15 U 74-87-3-----Chloromethane 15 U 74-83-9-----Bromomethane 15 U 75-01-4-----Vinyl Chloride 15 U 75-00-3-----Chloroethane 9 JB W 75-09-2----Methylene Chloride 13 JB 67-64-1-----Acetone 15 U 75-15-0-----Carbon Disulfide 15 U 75-35-4-----1,1-Dichloroethene 15 U 75-34-3----1,1-Dichloroethane 15 U 540-59-0----1,2-Dichloroethene (total) 15 U 67-66-3-----Chloroform 107-06-2----1,2-Dichloroethane 15 U 78-93-3----2-Butanone עט 15 71-55-6-----1,1,1-Trichloroethane 15 U 56-23-5-----Carbon Tetrachloride 15 U 75-27-4----Bromodichloromethane 15 U 78-87-5----1,2-Dichloropropane 15 U 10061-01-5----cis-1,3-Dichloropropene 15 U 79-01-6-----Trichloroethene 15 U 15 U 124-48-1-----Dibromochloromethane 79-00-5-----1,1,2-Trichloroethane 15 U 15 U 71-43-2----Benzene 10061-02-6----trans-1,3-Dichloropropene 15 U 15 U 75-25-2-----Bromoform 108-10-1----4-Methyl-2-Pentanone 15 U 591-78-6----2-Hexanone 15 | U J 127-18-4-----Tetrachloroethene 15 U 79-34-5----1,1,2,2-Tetrachloroethane 15 U 108-88-3-----Toluene 15 U 108-90-7-----Chlorobenzene 15 U 100-41-4-----Ethylbenzene 15 U 100-42-5-----Styrene 15 U 1330-20-7-----Xylene (Total) 15 U



VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

JL893

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.: SDG No.: JL893

Lab Sample ID: 796329

Matrix: (soil/water) SOIL

Level: (low/med) LOW

Lab File ID:

GH096329B54

Sample wt/vol: 5.0 (g/mL) g

Date Received: 04/11/96

% Moisture: not dec. 32

Number TICs found: 1

Date Analyzed: 04/16/96

Dilution Factor: 1.0

Soil Extract Volume: (uL)

GC Column: DB624 ID: 0.53 (mm)

Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		0.83		JB R
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FORM I VOA-TIC

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.: SDG No.: JL893

Matrix: (soil/water) SOIL Lab Sample ID: 796329

Sample wt/vol: 30.1 (g/mL) g Lab File ID: GH096329B04

Level: (low/med) LOW Date Received: 04/11/96

% Moisture: 29 decanted: (Y/N) Y Date Extracted:04/17/96

Concentrated Extract Volume: 500(uL) Date Analyzed: 04/20/96

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.7

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) ug/Kg (

108-95-2 111-44-4 95-57-8	Phenolbis(2-Chloroethyl)ether2-Chlorophenol1,3-Dichlorobenzene	460 460 460	-
111-44-4	bis(2-Chloroethyl)ether	. 1	u l
95-57-8	2-Chlorophenol	مخمأ	
		700	U
541-73-1	I'2-DICITIOIODEIIZEIIE	460	U
	1,4-Dichlorobenzene	460	U .
	1,2-Dichlorobenzene	460	ט
95-48-7	2-Methylphenol	460	ט
108-60-1	2,2'-oxybis(1-Chloropropane)	460	ָ ט
106-44-5	4-Methylphenol	460	ָ ט
621-64-7	N-Nitroso-di-n-propylamine	460	ט
	Hexachloroethane	460	ָּט
	Nitrobenzene	460	ַ ט
78-59-1	Isophorone	460	ט
88-75-5	2-Nitrophenol	460	ט
105-67-9	2,4-Dimethylphenol	460	ט
	bis(2-Chloroethoxy)methane	460	ט
120-83-2	2,4-Dichlorophenol	460	ט
120-82-1	1,2,4-Trichlorobenzene	460	ט
91-20-3	Naphthalene	460	U
	4-Chloroaniline	460	נט
87-68-3	Hexachlorobutadiene	460	ט
59-50-7	4-Chloro-3-methylphenol	460	ט
91-57-6	2-Methylnaphthalene	460	ע
77-47-4	Hexachlorocyclopentadiene	460	ט
88-06-2	2,4,6-Trichlorophenol	460	ט
95-95-4	2,4,5-Trichlorophenol	1200	ן ט
91-58-7	2-Chloronaphthalene	460	U
88-74-4	2-Nitroaniline	1200	ט
131-11-3	Dimethylphthalate .	460	ט
208-96-8	Acenaphthylene	460	ן ט
606-20-2	2,6-Dinitrotoluene	460	ט
99-09-2	3-Nitroaniline	1200	ן ט
83-32-9	Acenaphthene	460	ע

JL893

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.:

SDG No.: JL893

Matrix: (soil/water) SOIL

Lab Sample ID: 796329

Sample wt/vol: 30.1 (g/mL) g

Lab File ID:

GH096329B04

Level: (low/med)

LOW

Date Received: 04/11/96

% Moisture: 29

decanted: (Y/N) Y

Date Extracted:04/17/96

Concentrated Extract Volume:

500 (uL)

Date Analyzed: 04/20/96

Injection Volume: 2.0(uL)

Dilution Factor: 1.0

GPC Cleanup:

(Y/N) Y pH: 7.7

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg CAS NO. COMPOUND

51-28-52,4-Dinitrophenol 1200 U 100-02-74-Nitrophenol 1200 U 132-64-9Dibenzofuran 460 U 121-14-22,4-Dinitrotoluene 460 U 84-66-2Diethylphthalate 460 U 7005-72-34-Chlorophenyl-phenylether 460 U 86-73-7Fluorene 460 U 100-01-64-Nitroaniline 1200 U 534-52-14,6-Dinitro-2-methylphenol 1200 U 86-30-6N-nitrosodiphenylamine (1) 460 U 101-55-34-Bromophenyl-phenylether 460 U 118-74-1Hexachlorophenol 1200 UJ 87-86-5Pentachlorophenol 1200 UJ 85-01-8Phenanthrene 460 U 120-12-7Anthracene 460 U 86-74-8Putylphthalate 460 U 206-44-0	
100-02-74-Nitrophenol 1200 U 132-64-9Dibenzofuran 460 U 121-14-22,4-Dinitrotoluene 460 U 84-66-2Diethylphthalate 460 U 7005-72-34-Chlorophenyl-phenylether 460 U 86-73-7Fluorene 460 U 100-01-64-Nitroaniline 1200 U 534-52-14,6-Dinitro-2-methylphenol 1200 U 86-30-6N-nitrosodiphenylamine 1) 101-55-34-Bromophenyl-phenylether 460 U 118-74-1Hexachlorobenzene 460 U 87-86-5Pentachlorophenol 1200 UJ 85-01-8Phenanthrene 460 U 120-12-7Anthracene 460 U 86-74-8Carbazole 460 U 84-74-2	
132-64-9	
121-14-22,4-Dinitrotoluene 460 U 84-66-2Diethylphthalate 460 U 7005-72-34-Chlorophenyl-phenylether 460 U 86-73-7Fluorene 460 U 100-01-64-Nitroaniline 1200 U 534-52-14,6-Dinitro-2-methylphenol 1200 U 86-30-6N-nitrosodiphenylamine 11 101-55-34-Bromophenyl-phenylether 460 U 118-74-1Hexachlorobenzene 460 U 87-86-5Pentachlorophenol 1200 UJ 85-01-8Phenanthrene 460 U 120-12-7Anthracene 460 U 86-74-8Carbazole 460 U 84-74-2Di-n-butylphthalate 460 U 206-44-0Fluoranthene 460 U 129-00-0	
84-66-2	
7005-72-34-Chlorophenyl-phenylether 460 U 86-73-7Fluorene 460 U 100-01-64-Nitroaniline 1200 U 534-52-14,6-Dinitro-2-methylphenol 1200 U 86-30-6N-nitrosodiphenylamine (1) 460 U 101-55-34-Bromophenyl-phenylether 460 U 118-74-1Hexachlorobenzene 460 U 87-86-5Pentachlorophenol 1200 UJ 85-01-8Phenanthrene 460 U 120-12-7	
86-73-7	
100-01-64-Nitroaniline 1200 U 534-52-14,6-Dinitro-2-methylphenol 1200 U 86-30-6N-nitrosodiphenylamine (1) 460 U 101-55-34-Bromophenyl-phenylether 460 U 118-74-1Hexachlorobenzene 460 U 87-86-5Pentachlorophenol 1200 UJ 85-01-8Phenanthrene 460 U 120-12-7Anthracene 460 U 86-74-8Carbazole 460 U 84-74-2Di-n-butylphthalate 460 U 206-44-0	
534-52-14,6-Dinitro-2-methylphenol 1200 U 86-30-6N-nitrosodiphenylamine (1) 460 U 101-55-34-Bromophenyl-phenylether 460 U 118-74-1Hexachlorobenzene 460 U 87-86-5Pentachlorophenol 1200 UJ 85-01-8Phenanthrene 460 U 120-12-7Anthracene 460 U 86-74-8Carbazole 460 U 84-74-2Di-n-butylphthalate 460 U 206-44-0Fluoranthene 460 U 129-00-0	
86-30-6N-nitrosodiphenylamine (1) 460 U 101-55-34-Bromophenyl-phenylether 460 U 118-74-1Hexachlorobenzene 460 U 87-86-5Pentachlorophenol 1200 UJ 85-01-8Phenanthrene 460 U 120-12-7Anthracene 460 U 86-74-8Carbazole 460 U 84-74-2Di-n-butylphthalate 460 U 206-44-0Fluoranthene 460 U 129-00-0	
101-55-34-Bromophenyl-phenylether 460 U 118-74-1Hexachlorobenzene 460 U 87-86-5Pentachlorophenol 1200 U 85-01-8Phenanthrene 460 U 120-12-7Anthracene 460 U 86-74-8Carbazole 460 U 84-74-2Di-n-butylphthalate 460 U 206-44-0Fluoranthene 460 U 129-00-0	
118-74-1	
87-86-5Pentachlorophenol 1200 UJ 85-01-8Phenanthrene 460 U 120-12-7	
85-01-8Phenanthrene 460 U 120-12-7Anthracene 460 U 86-74-8Carbazole 460 U 84-74-2Di-n-butylphthalate 460 U 206-44-0Fluoranthene 460 U 129-00-0Pyrene 460 U 85-68-7	
85-01-8	
120-12-7	
86-74-8	
84-74-2Di-n-butylphthalate 460 U 206-44-0Fluoranthene 460 U 129-00-0Pyrene 460 U 85-68-7Butylbenzylphthalate 460 U 91-94-13,3'-Dichlorobenzidine 460 U 56-55-3Benzo(a) anthracene 460 U 218-01-9Chrysene 460 U	
206-44-0Fluoranthene 460 U 129-00-0Pyrene 460 U 85-68-7Butylbenzylphthalate 460 U 91-94-13,3'-Dichlorobenzidine 460 U 56-55-3Benzo(a) anthracene 460 U 218-01-9Chrysene 460 U	
129-00-0	
85-68-7Butylbenzylphthalate 460 U 91-94-13,3'-Dichlorobenzidine 460 U 56-55-3Benzo(a) anthracene 460 U 218-01-9Chrysene 460 U	
91-94-13,3'-Dichlorobenzidine 460 U 56-55-3Benzo(a) anthracene 460 U 218-01-9Chrysene 460 U	
56-55-3Benzo(a) anthracene 460 U 218-01-9Chrysene 460 U	
218-01-9Chrysene 460 U	
117-84-0Di-n-octylphthalate 460 U	
205-99-2Benzo (b) fluoranthene 460 U	
207-08-9Benzo(k) fluoranthene 460 U	
50-32-8Benzo(a) pyrene 460 U	
193-39-5Indeno (1, 2, 3-cd) pyrene 460 U	
53-70-3Dibenzo (a, h) anthracene 460 U	
191-24-2Benzo(g,h,i)perylene 460 U	
) - Cannot be separated from Diphenylamine	

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JL893

Lab Name: COMPUCHEM ENV. CORP.

Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.:

SDG No.: JL893

Matrix: (soil/water) SOIL

Lab Sample ID: 796329

Sample wt/vol:

30.1 (g/mL) g

Lab File ID: GH096329B04

Level: (low/med) LOW

Date Received: 04/11/96

% Moisture: 29

decanted: (Y/N) Y

Date Extracted: 04/17/96

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 04/20/96

Injection Volume:

2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y

pH: 7.7

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

Number TICs found: 3

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CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 2. 3.	ALDOL (BC) UNKNOWN (BC) LABORATORY ARTIFACT	4.78 5.56 11.12		JB R
5. 6. 7.				
8. 9. 10.				
13. 14. 15.				
16. 17. 18.				
21. 22. 23.				
24. 25. 26. 27.				
28				

VOLATILE ORGANICS ANALYSIS DATA SHEET

JL894

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50004

Lab Code: COMPU

Case No.: 24554 SAS No.:

SDG No.: JL893

Matrix: (soil/water) SOIL

Lab Sample ID: 796758

Sample wt/vol: 5.0 (g/mL) g

Lab File ID:

GH096758A54

Level:

(low/med) LOW Date Received: 04/12/96

Date Analyzed: 04/18/96

% Moisture: not dec. 67

Dilution Factor: 1.0

GC Column:DB624 ID: 0.53 (mm)

CAS NO.

COMPOUND

Soil Aliquot Volume: ____(uL)

Soil Extract Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg Q

30 U 74-87-3-----Chloromethane 30 U 74-83-9-----Bromomethane 30 U 75-01-4-----Vinyl Chloride 30 U 75-00-3-----Chloroethane 75-09-2-----Methylene Chloride 19 JB W 15 JB UI 67-64-1-----Acetone 30 U 75-15-0-----Carbon Disulfide 30 U 75-35-4----1,1-Dichloroethene 30 U 75-34-3-----1,1-Dichloroethane 540-59-0-----1,2-Dichloroethene (total) 30 U 30 U 67-66-3-----Chloroform 107-06-2----1,2-Dichloroethane 30 U 30 UX 78-93-3----2-Butanone 30 U 71-55-6----1,1,1-Trichloroethane 30 U 56-23-5-----Carbon Tetrachloride 30 U 75-27-4-----Bromodichloromethane 78-87-5----1,2-Dichloropropane 30 U 30 U 10061-01-5----cis-1,3-Dichloropropene 30 U 79-01-6----Trichloroethene 30 U 124-48-1-----Dibromochloromethane 79-00-5-----1,1,2-Trichloroethane 30 U 71-43-2-----Benzene 30 U 10061-02-6----trans-1,3-Dichloropropene 30 U 30 U/ 75-25-2-----Bromoform 108-10-1-----4-Methyl-2-Pentanone 30 U 591-78-6----2-Hexanone 30 UJ 127-18-4-----Tetrachloroethene 30 U 30 U 79-34-5----1,1,2,2-Tetrachloroethane 108-88-3-----Toluene 30 U 30 U 108-90-7-----Chlorobenzene 100-41-4----Ethylbenzene 30 U 100-42-5-----Styrene 30 U 1330-20-7-----Xylene (Total) 30 U

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: COMPUCHEM ENV. CORP.

Contract: 68D50004

JL894

Lab Code: COMPU Case No.: 24554 SAS No.:

SDG No.: JL893

Matrix: (soil/water) SOIL

Lab Sample ID: 796758

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: GH096758A54

Level: (low/med) LOW

Date Received: 04/12/96

% Moisture: not dec. 67

Date Analyzed: 04/18/96

GC Column:DB624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

Number TICs found: 1

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	1
1.	CO2 (NOT IN TIC TOTAL)	0.86	179	
3				
5. 6. 7.				
9.				
10.				
12. 13. 14.				
16.				
17. 18. 19.				
21.				
23.				
24. 25. 26.				
28				
29. 30.				

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

JL894

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50004

SDG No.: JL893 Lab Code: COMPU Case No.: 24554 SAS No.:

Lab Sample ID: 796758 Matrix: (soil/water) SOIL

Sample wt/vol: 30.1 (g/mL) g Lab File ID: GH096758B04

Date Received: 04/12/96 Level: (low/med) LOW

Date Extracted: 04/17/96 % Moisture: 65 decanted: (Y/N) Y

Concentrated Extract Volume: 500 (uL) Date Analyzed: 04/20/96

Dilution Factor: 1.0 Injection Volume: 2.0(uL)

GPC Cleanup: (Y/N) Y pH: 6.8

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg CAS NO. COMPOUND

108-95-2Phenol	940	ט
111-44-4bis(2-Chloroethyl)ether	940	<u> </u>
95-57-82-Chlorophenol	940	ט
541-73-11,3-Dichlorobenzene	940	U
106-46-71,4-Dichlorobenzene	940	U
95-50-11,2-Dichlorobenzene	940	U:
95-48-72-Methylphenol	940	U
108-60-12,2'-oxybis(1-Chloropropane)	940	
106-44-54-Methylphenol	940	
621-64-7N-Nitroso-di-n-propylamine	940	-
67-72-1Hexachloroethane	940	-
98-95-3Nitrobenzene	940	_
78-59-1Isophorone	940	
88-75-52-Nitrophenol	940	-
105-67-92,4-Dimethylphenol	940	_
111-91-1bis (2-Chloroethoxy) methane	940	-
120-83-22,4-Dichlorophenol	940	_
120-83-2-11,2,4-Trichlorobenzene	940	_
91-20-3Naphthalene	940	
106-47-84-Chloroaniline	940	-
87-68-3Hexachlorobutadiene	940	
59-50-74-Chloro-3-methylphenol	940	1 -
91-57-62-Methylnaphthalene	940	
77-47-4Hexachlorocyclopentadiene	940	ι -
7/-4/-4nexaciiiorocyclopentadiene	940	_
88-06-22,4,6-Trichlorophenol		[-
95-95-42,4,5-Trichlorophenol	2400	, –
91-58-72-Chloronaphthalene	940	, –
88-74-42-Nitroaniline	2400	1 -
131-11-3Dimethylphthalate	940	1 -
208-96-8Acenaphthylene	940	t
606-20-22,6-Dinitrotoluene	940	1 ⁻
99-09-23-Nitroaniline	2400	1 "
83-32-9Acenaphthene	940	U
	}	1

EPA SAMPLE NO.

JL894

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.:

SDG No.: JL893

Matrix: (soil/water) SOIL

Lab Sample ID: 796758

Sample wt/vol: 30.1 (g/mL) g

Lab File ID: GH096758B04

Level: (low/med) LOW

Date Received: 04/12/96

% Moisture: 65 decanted: (Y/N) Y

Date Extracted:04/17/96

Concentrated Extract Volume: 500 (uL)

CAS NO.

Date Analyzed: 04/20/96

Injection Volume: 2.0(uL)

COMPOUND

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.8

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg Q

51_28_5	2,4-Dinitrophenol	2400	TT
	4-Nitrophenol	2400	
	Dibenzofuran	940	_
	2,4-Dinitrotoluene	940	
84-66-2	Diethylphthalate	940	
7005-72-3	4-Chlorophenyl-phenylether	940	_
86-73-7	Fluorene	940	
100-01-6	4-Nitroaniline	2400	
	4,6-Dinitro-2-methylphenol	2400	
	N-nitrosodiphenylamine (1)	940	_
	4-Bromophenyl-phenylether	940	_
118-74-1	Hexachlorobenzene	940	1
	Pentachlorophenol	2400	
	Phenanthrene	940	
	Anthracene	940	
	Carbazole	940	_
	Di-n-butylphthalate	940	1
206-44-0	Fluoranthene	940	Ū
129-00-0	Pyrene	940	U
	Butylbenzylphthalate	940	U
91-94-1	3,3'-Dichlorobenzidine	940	U
56-55-3	Benzo(a) anthracene	940	ט
218-01-9	Chrysene	940	ט
117-81-7	bis(2-Ethylhexyl)phthalate	940	U
117-84-0	Di-n-octylphthalate	940	U
205-99-2	Benzo (b) fluoranthene	940	U
207-08-9	Benzo(k) fluoranthene	940	U
50-32-8	Benzo(a) pyrene	940	U
193-39-5	Indeno (1,2,3-cd) pyrene	940	ט
53-70-3	Dibenzo (a, h) anthracene	940	U
191-24-2	Benzo(g,h,i)perylene	940	U
			1

FORM I SV-2

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

JL894

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.: SDG No.: JL893

Matrix: (soil/water) SOIL

Lab Sample ID: 796758

Sample wt/vol: 30.1 (g/mL) g

Lab File ID: GH096758B04

Level: (low/med) LOW

Date Received: 04/12/96

% Moisture: 65 decanted: (Y/N) Y

Date Extracted: 04/17/96

Concentrated Extract Volume:

500 (uL) Date Analyzed: 04/20/96

Injection Volume: 2.0(uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.8

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

Number TICs found: 5

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 2. 3. 4. 5.	ALDOL (BC) UNKNOWN (BC) LABORATORY ARTIFACT UNKNOWN UNKNOWN	4.78 5.56 11.12 17.75 17.96	37000 1800 200	JAB (JAB R JAB R
7. 8. 9.				
.1 2 3.				
4 5. 6. 7. 8				
0. 1. 2.				
3 4 5				
7				

FORM I SV-TIC

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JL895

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50004

SDG No.: JL895

Lab Code: COMPU Case No.: 24554 SAS No.:

Lab Sample ID: 796992

Matrix: (soil/water) SOIL

Lab File ID: GH096992A55 Sample wt/vol: 5.0 (g/mL) g

Level:

(low/med) LOW

Date Received: 04/15/96

% Moisture: not dec. 55

Date Analyzed: 04/17/96

GC Column:DB624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume:____(uL)

Soil Aliquot Volume: (uL)

CAS NO. COMPOUND

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

74-83-9 75-01-4	Chloromethane		22 UJ
74-83-9 75-01-4	Bromomethane		
75-01-4		ì	22 U
	Vinvl Chloride		22 U
	Chloroethane		22 U
	Methylene Chloride	AM ST.	11 JB 45
67-64-1			10 J
	Carbon Disulfide	1 .	22 U
	1,1-Dichloroethene	Ì	22 U
	1,1-Dichloroethane		22 U
	1,2-Dichloroethene (total)		22 U
67-66-3			22 U
	1,2-Dichloroethane		22 U
78-93-3		j	עט 22
	1,1,1-Trichloroethane		22 U
	Carbon Tetrachloride		22 U
	Bromodichloromethane		22 U
	1,2-Dichloropropane		22 U
	cis-1,3-Dichloropropene		22 U
	Trichloroethene		22 U -
	Dibromochloromethane]	22 U
	1,1,2-Trichloroethane	•	22 U
71-43-2			22 U
10061-02-6	trans-1,3-Dichloropropene		22 U
75-25-2			22 W
108-10-1	4-Methyl-2-Pentanone	•	22 U
591-78-6	2-Hexanone	1	22 U.J
127-18-4	Tetrachloroethene	1	22 U
	1,1,2,2-Tetrachloroethane		22 U
108-88-3	Toluene	1	22 U
108-90-7	Chlorobenzene		22 U
	Ethylbenzene		22 U
100-42-5		1	22 U
	Xylene (Total)	1	22 U

FORM I VOA

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: COMPUCHEM ENV. CORP.

Contract: 68D50004

JL895

Lab Code: COMPU Case No.: 24554 SAS No.: SDG No.: JL895

Matrix: (soil/water) SOIL

5.0 (g/mL) g

Lab File ID: GH096992A55

Sample wt/vol:

Level: (low/med) LOW

Date Received: 04/15/96

Date Analyzed: 04/17/96

% Moisture: not dec. 55

GC Column:DB624 ID: 0.53 (mm)

Dilution Factor: 1.0

Lab Sample ID: 796992

Soil Extract Volume: (uL)

Soil Aliquot Volume: ____(uL)

Number TICs found: 1

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.		22.65		JE R
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FORM I VOA-TIC

JL895

Lab Name: CompuChem Env. Corp. Contract: 68D50004

Lab Code: COMPU

Case No.: 24554 SAS No.:

SDG No.: JL895

Matrix: (soil/water) SOIL

Lab Sample ID: 796992

Sample wt/vol: 30.4 (g/mL) g

Lab File ID:

GH096992A02

Level: (low/med) LOW

Date Received: 04/15/96

decanted: (Y/N) N

Date Extracted: 04/17/96

Concentrated Extract Volume:

CAS NO.

% Moisture: 55

Date Analyzed: 04/19/96

Injection Volume: 2.0(uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.9

COMPOUND

500 (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

108-95-2Phenol	720	ט
111-44-4bis(2-Chloroethyl)ether	720	U
95-57-82-Chlorophenol	720	ט
541-73-11,3-Dichlorobenzene	720	U
106-46-71,4-Dichlorobenzene	720	ט
95-50-11,2-Dichlorobenzene	720	ט
95-48-72-Methylphenol	720	U
108-60-12,2'-oxybis(1-Chloropropane)	720	Ū
106-44-54-Methylphenol	720	_
621-64-7N-Nitroso-di-n-propylamine	720	_
67-72-1Hexachloroethane	720	
98-95-3Nitrobenzene	720	
78-59-1Isophorone	720	1 - 1
88-75-52-Nitrophenol	720	1 1
105-67-92,4-Dimethylphenol	720	1
111-91-1bis (2-Chloroethoxy) methane	720	-
120-83-22,4-Dichlorophenol	720 720	
120-83-22,4-Bickholophenol	720	
91-20-3Naphthalene	720	1 1
106-47-84-Chloroaniline	720	
87-68-3Hexachlorobutadiene	720	1 1
	720	1 - 1
59-50-74-Chloro-3-methylphenol	,	1 -
91-57-62-Methylnaphthalene	720	1 - 1
77-47-4Hexachlorocyclopentadiene	720	1 -
88-06-22,4,6-Trichlorophenol	720	1 -
95-95-42,4,5-Trichlorophenol	1800	1 -
91-58-72-Chloronaphthalene	720	-
88-74-42-Nitroaniline	1800	
131-11-3Dimethylphthalate	720	1 -
208-96-8Acenaphthylene	720	-
606-20-22,6-Dinitrotoluene	720	U
99-09-23-Nitroaniline	1800	U
83-32-9Acenaphthene	720	ט
		1

FORM I SV-1

JL895

Lab Name: CompuChem Env. Corp. Contract: 68D50004

Case No.: 24554 SAS No.: SDG No.: JL895 Lab Code: COMPU

Lab Sample ID: 796992 Matrix: (soil/water) SOIL

30.4 (g/mL) g Lab File ID: GH096992A02 Sample wt/vol:

Date Received: 04/15/96 LOW Level: (low/med)

Date Extracted:04/17/96 decanted: (Y/N) N % Moisture: 55

Date Analyzed: 04/19/96 500 (uL) Concentrated Extract Volume:

Dilution Factor: 1.0 Injection Volume: 2.0(uL)

(Y/N) Y pH: 6.9GPC Cleanup:

> CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg COMPOUND CAS NO.

51-28-52,4-Dinitrophenol	1800	Τī
100-02-74-Nitrophenol	1800	_
132-64-9Dibenzofuran	720	(
	720 720	The state of the s
121-14-22,4-Dinitrotoluene	720	-
84-66-2Diethylphthalate		
7005-72-34-Chlorophenyl-phenylether_	720	
86-73-7Fluorene	720	
100-01-64-Nitroaniline	1800	
534-52-14,6-Dinitro-2-methylphenol_	1800	
86-30-6N-nitrosodiphenylamine_(1)	720	l -
101-55-34-Bromophenyl-phenylether	720	
118-74-1Hexachlorobenzene	720	U .
87-86-5Pentachlorophenol	1800	ט
85-01-8Phenanthrene	720	U
120-12-7Anthracene	720	U
86-74-8Carbazole	720	U
84-74-2Di-n-butylphthalate	720	U
206-44-0Fluoranthene	720	
129-00-0Pyrene	720	1 ~
85-68-7Butylbenzylphthalate	720	
91-94-13,3'-Dichlorobenzidine	720	1 -
56-55-3Benzo (a) anthracene	720	
	720	1 -
218-01-9Chrysene		1 -
117-81-7bis(2-Ethylhexyl)phthalate	85	
117-84-0Di-n-octylphthalate	720	, -
205-99-2Benzo (b) fluoranthene	720	
207-08-9Benzo(k) fluoranthene	720	-
50-32-8Benzo (a) pyrene	720	1 -
193-39-5Indeno(1,2,3-cd)pyrene	720	1 -
53-70-3Dibenzo(a,h)anthracene	720	ט
191-24-2Benzo(g,h,i)perylene	720	U
	<u> </u>	1

(1) - Cannot be separated from Diphenylamine

OLMO3.0

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JL895

Lab Name: CompuChem Env. Corp. Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.: SDG No.: JL895

Matrix: (soil/water) SOIL

Lab Sample ID: 796992

Sample wt/vol: 30.4 (g/mL) g Lab File ID: GH096992A02

Level: (low/med) LOW

Date Received: 04/15/96

% Moisture: 55 decanted: (Y/N) N Date Extracted:04/17/96

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 04/19/96

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.9

Number TICs found: 5

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

			<u> </u>	
CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
	=======================================	=======	222 <u>2</u> 2222222	=====
1.	ALDOL (BC)	4.49	6700	JAB &
2.	LABORATORY ARTIFACT	10.84	150	J R
3.	UNKNOWN CARBOXYLIC ACID	15.80	270	J
4.	UNKNOWN	17.63	220	
5.	UNKNOWN	25.93	170]J
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FORM I SV-TIC

1A VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.: SDG No.: JL893

Matrix: (soil/water) SOIL Lab Sample ID: 796334

Sample wt/vol: 5.0 (g/mL) g Lab File ID: GH096334B54

Level: (low/med) LOW Date Received: 04/11/96

% Moisture: not dec. 45 Date Analyzed: 04/16/96

GC Column:DB624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: COMPOUND (ug/L or ug/Kg) ug/Kg CAS NO. 18 U 74-87-3-----Chloromethane 74-83-9-----Bromomethane 18 U 18 U 75-01-4-----Vinyl Chloride 75-00-3-----Chloroethane 18 U 14 JB W 75-09-2----Methylene Chloride 11 JB 41 67-64-1-----Acetone 75-15-0-----Carbon Disulfide 18 U 75-35-4-----1,1-Dichloroethene 18 U 18 U 75-34-3----1,1-Dichloroethane 18 U 540-59-0----1,2-Dichloroethene (total) 18 U 67-66-3-----Chloroform 18 U 107-06-2----1,2-Dichloroethane עט 18 78-93-3----2-Butanone 18 U 71-55-6-----1,1,1-Trichloroethane 18 U 56-23-5-----Carbon Tetrachloride 18 U 75-27-4-----Bromodichloromethane 18 U 78-87-5----1,2-Dichloropropane 18 U 10061-01-5----cis-1,3-Dichloropropene 79-01-6-----Trichloroethene 18 U 18 U 124-48-1-----Dibromochloromethane 18 U 79-00-5-----1,1,2-Trichloroethane 71-43-2----Benzene 18 U 10061-02-6----trans-1,3-Dichloropropene 18 U 18 U 75-25-2-----Bromoform 108-10-1----4-Methyl-2-Pentanone 18 U 591-78-6----2-Hexanone 18 W 18 U 127-18-4----Tetrachloroethene 18 U 79-34-5----1,1,2,2-Tetrachloroethane_ 108-88-3-----Toluene 18 U 108-90-7-----Chlorobenzene 18 U 100-41-4-----Ethylbenzene 18 U 100-42-5----Styrene 18 U 1330-20-7-----Xylene (Total) 18 U

24/29/95

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

JL896 Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.: SDG No.: JL893

Matrix: (soil/water) SOIL Lab Sample ID: 796334

Lab File ID: GH096334B54 Sample wt/vol: 5.0 (g/mL) g

Date Received: 04/11/96 Level: (low/med) LOW

Date Analyzed: 04/16/96 % Moisture: not dec. 45

GC Column:DB624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Aliquot Volume: (uL) Soil Extract Volume: ____(uL)

CONCENTRATION UNITS:

Number TICs found: 2 (ug/L or ug/Kg) ug/Kg

			r ·	
CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
	COO (NOW THE WILL WORKE)	0.00	70	TD- /
1.	CO2 (NOT IN TIC TOTAL)	0.86	12	æB- ⟨
2.	LABORATORY ARTIFACT	17.68	12	J K
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SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

JL896

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.:

SDG No.: JL893

Matrix: (soil/water) SOIL

Lab Sample ID: 796334

Sample wt/vol:

30.5 (g/mL) g Lab File ID: GH096334B04

Level: (low/med) LOW

Date Received: 04/11/96

% Moisture: 45 decanted: (Y/N) Y

Date Extracted:04/17/96

Concentrated Extract Volume: 500(uL)

Date Analyzed: 04/19/96

Injection Volume: 2.0(uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y

pH: 7.5

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg CAS NO. COMPOUND

		,
108-95-2Phenol	590	บ
111-44-4bis(2-Chloroethyl)ether	590	_
95-57-82-Chlorophenol	590	
541-73-11,3-Dichlorobenzene	590	U
106-46-71,4-Dichlorobenzene	590	U
95-50-11,2-Dichlorobenzene	590	ט
95-48-72-Methylphenol	590	U
108-60-12,2'-oxybis(1-Chloropropane)	590	U
106-44-54-Methylphenol	590	ט
621-64-7N-Nitroso-di-n-propylamine	590	ט
67-72-1Hexachloroethane	590	ט ו
98-95-3Nitrobenzene	590	U
78-59-1Isophorone	590	U
88-75-52-Nitrophenol	590	ן ט
105-67-92,4-Dimethylphenol	590	ן ט
111-91-1bis(2-Chloroethoxy) methane	590	U
120-83-22,4-Dichlorophenol	590	ט
120-82-11,2,4-Trichlorobenzene	590	ט
91-20-3Naphthalene	590	ן ט
106-47-84-Chloroaniline	590	lu l
87-68-3Hexachlorobutadiene	590	ט
59-50-74-Chloro-3-methylphenol	590	U
91-57-62-Methylnaphthalene	590	ן דו
77-47-4Hexachlorocyclopentadiene	590	U
88-06-22,4,6-Trichlorophenol	590	ן טן
95-95-42,4,5-Trichlorophenol	1500	U
91-58-72-Chloronaphthalene	590	ן ט
88-74-42-Nitroaniline	1500	ט
131-11-3Dimethylphthalate	590	ט
208-96-8Acenaphthylene	590	U
606-20-22,6-Dinitrotoluene	590	ט
99-09-23-Nitroaniline	1500	U
83-32-9Acenaphthene	590	U
		1 1

JL896

Lab Name: COMPUCHEM ENV. CORP.

Contract: 68D50004

Lab Code: COMPU

Case No.: 24554 SAS No.:

SDG No.: JL893

Matrix: (soil/water) SOIL

Lab Sample ID: 796334

Sample wt/vol:

30.5 (g/mL) g

Lab File ID: GH096334B04

Level: (low/med) LOW Date Received: 04/11/96

% Moisture: 45

decanted: (Y/N) Y

Date Extracted:04/17/96

Concentrated Extract Volume: 500(uL)

Date Analyzed: 04/19/96

Injection Volume:

2.0 (uL)

Dilution Factor: 1.0

CONCENTRATION UNITS:

GPC Cleanup: (Y/N) Y pH: 7.5

CAS NO.	COMPOUND	(ug/L or ug/Kg)	ug/kg	Q
51-28-5	2,4-Dinitrophe	nol	1500	IJ
	4-Nitrophenol		1500	
	Dibenzofuran		590	_
	2,4-Dinitrotol	uene	590	
	Diethylphthala		590	
	4-Chlorophenyl		590	
	Fluorene	pricity recites	590	
	4-Nitroaniline		1500	
	4,6-Dinitro-2-		1500	
	N-nitrosodiphe		590	
	4-Bromophenyl-		590	ř.
118-74-1	Hexachlorobenz	ene	590	
	Pentachlorophe		1500	
	Phenanthrene		590	
	Anthracene	<u> </u>	590	
86-74-8	Carbazole		590	
84-74-2	Carbazole Di-n-butylphth	2) 210	590	1
206-44-0	Fluoranthene	arace	590	
129-00-0			590	
	Butylbenzylpht	halato	590	L .
01-04-1	3,3'-Dichlorok	enzidine	590 590	
51-54-1	Benzo (a) anthra	gono —	590 590	1
	Chrysene	.ceile	590 590	
	bis(2-Ethylhex	- Nabebalata	_	1 -
117 04 0	DiInter	yi/phthalate	590	1
11/-84-0	Di-n-octylphth	arace	590	1
205-99-2	Benzo (b) fluora	nthene	590	
207-08-9	Benzo(k)fluora	ntnene	590	
50-32-8	Benzo (a) pyrene		590	_
193-39-5	Indeno (1, 2, 3-c	a) pyrene	590	
53-70-3	Dibenzo(a,h) ar	thracene	590	
191-24-2	Benzo(g,h,i)pe	rylene	590	ĮŪ
	separated from Di			1

FORM I SV-2

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

JL896

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.:

SDG No.: JL893

Matrix: (soil/water) SOIL

Lab Sample ID: 796334

Sample wt/vol: 30.5 (g/mL) g

Lab File ID: GH096334B04

Level: (low/med) LOW

Date Received: 04/11/96

% Moisture: 45

decanted: (Y/N) Y

Date Extracted: 04/17/96

Concentrated Extract Volume:

500 (uL)

Date Analyzed: 04/19/96

Injection Volume: 2.0(uL)

Dilution Factor: 1.0

GPC Cleanup:

(Y/N) Y pH: 7.5

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

Number TICs found: 3

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 2. 3. 4.	ALDOL (BC) UNKNOWN (BC) UNKNOWN	4.78 5.56 17.81	31000 1500 140	BB K
5				
9. 10. 11.				
14. 15. 16.				
18.				
22. 23.				
26. 27.				
29				

VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JL897

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.:

SDG No.: JL893

Matrix: (soil/water) SOIL

Lab Sample ID: 796337

Sample wt/vol:

5.0 (g/mL) g

Lab File ID: GR096337B54

Level: (low/med) LOW

Date Received: 04/11/96.

Soil Extract Volume:____(uL)

Date Analyzed: 04/17/96

% Moisture: not dec. 48

Dilution Factor: 1.0

GC Column:DB624 ID: 0.53 (mm)

Soil Aliquot Volume: ____(uL)

CONCENTRATION UNITS:

CAS NO. COMPOUND

(ug/L or ug/Kg) ug/Kg Q

					
74-87-3	Chloromethane	•	19	Ū	
· · -	Bromomethane		19	Ū	
·	Vinyl Chloride		19	U	
	Chloroethane	·	19	U	
	Methylene Chloride	e e e e	14	æ	45
67-64-1			15	JB	uJ
	Carbon Disulfide	•	19	Ū	
	1,1-Dichloroethene		19	Ū	
	1,1-Dichloroethane		19	U	
	1,2-Dichloroethene (total)		19	U	·
	Chloroform		19	Ū	
	1,2-Dichloroethane	. ,	19	Ū	
	2-Butanone		19	U	
	1,1,1-Trichloroethane		19	Ū	
	Carbon Tetrachloride	-	19		
	Bromodichloromethane		19	Ū	
	1,2-Dichloropropane		19		
10061-01-5	cis-1,3-Dichloropropene		19		
	Trichloroethene		19	,	
	Dibromochloromethane		19		
	1,1,2-Trichloroethane		19		
71-43-2			19		
	trans-1,3-Dichloropropene		19		
75-25-2		1	19		
	4-Methyl-2-Pentanone	1		נט	
	2-Hexanone		19	_	•
	Tetrachloroethene		19		
	1,1,2,2-Tetrachloroethane		19		
108-88-3			19		
	Chlorobenzene		19		
	Ethylbenzene		19	4	
100-42-5			19		
	Xylene (Total)		2	1 -	
 -				1	

VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JL897

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.: SDG No.: JL893

Matrix: (soil/water) SOIL

Lab Sample ID: 796337

Sample wt/vol: 5.0 (g/mL) g Lab File ID: GR096337B54

Level: (low/med) LOW

Date Received: 04/11/96

% Moisture: not dec. 48

Number TICs found: 2

Date Analyzed: 04/17/96

GC Column:DB624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Aliquot Volume: ____(uL)

Soil Extract Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 2. 3.	CO2 (NOT IN TIC TOTAL) LABORATORY ARTIFACT	0.83	17	BB R
4		-		
6. 7.				
9.				
11.				
12. 13.				
14. 15. 16.				
18.				
19 20.				
21. 22.		_		
23. 24. 25.		-		
26. 27.		-		
20. 29.				
30.				

FORM I VOA-TIC

OLM03.0

0.0031

EPA SAMPLE NO.

JL897

Lab Name: COMPUCHEM ENV. CORP.

Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.:

SDG No.: JL893

Matrix: (soil/water) SOIL

Lab Sample ID: 796337

Sample wt/vol:

30.3 (g/mL) g

Lab File ID: GH096337B04

Level: (low/med) LOW

Date Received: 04/11/96

% Moisture: 48 decanted: (Y/N) Y Date Extracted:04/17/96

Concentrated Extract Volume: 500 (uL) Date Analyzed: 04/20/96

Injection Volume:

2.0(uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.6

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

CAS NO.	COMPOUND (ug/L or ug	g/Kg) ug/Kg	Q
108-95-2		630	ט
	bis(2-Chloroethyl)ether	630	
	2-Chlorophenol	630	
	1,3-Dichlorobenzene	630	
106-46-7	1,4-Dichlorobenzene	630	
95-50-1	1,2-Dichlorobenzene	630	
	2-Methylphenol	630	
108-60-1	2,2'-oxybis(1-Chloropropane)	آ 630 <u> </u>	
106-44-5	4-Methylphenol	630	
621-64-7	N-Nitroso-di-n-propylamine	630	
67-72-1	Hexachloroethane	630	ט
98-95-3	Nitrobenzene	630	ט
78-59-1	Isophorone	630	ָט.
88-75-5	2-Nitrophenol	630	U
105-67-9	2,4-Dimethylphenol	630	U
111-91-1	bis(2-Chloroethoxy) methane	630	ט
120-83-2	2,4-Dichlorophenol	630	ט
	1,2,4-Trichlorobenzene	630	ט
	Naphthalene	630	U
106-47-8	4-Chloroaniline	630	บป
87-68-3	Hexachlorobutadiene	630	U
59-50-7	4-Chloro-3-methylphenol	630	ן ט
91-57-6	2-Methylnaphthalene	630	ן ט
77-47-4	Hexachlorocyclopentadiene	630	U
88-06-2	2,4,6-Trichlorophenol	630	ט
95-95-4	2,4,5-Trichlorophenol	1600	ן ט
91-58-7	2-Chloronaphthalene	630	ן מן
88-74-4	2-Nitroaniline	1600	ט
131-11-3	Dimethylphthalate .	630	ט
208-96-8	Acenabhenviene	630	ן טן
606-20-2	2,6-Dinitrotoluene	630	1 1
99-09-2	3-Nitroaniline	1600	, ,
83-32-9	Acenaphthene	630	1 1
		-1	
			,

JL897

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.: SDG No.: JL893

Matrix: (soil/water) SOIL

Lab Sample ID: 796337

Sample wt/vol: 30.3 (g/mL) g Lab File ID: GH096337B04

Level: (low/med) LOW

Date Received: 04/11/96

% Moisture: 48 decanted: (Y/N) Y Date Extracted: 04/17/96

Concentrated Extract Volume: 500(uL) Date Analyzed: 04/20/96

Injection Volume: 2.0(uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.6

CAS NO.	COMPOUND (ug/L	or ug/Kg)	ug/Kg	Q
51-28-5	2,4-Dinitrophenol		1600	Ū
	4-Nitrophenol		1600	U
	Dibenzofuran		630	U
121-14-2	2,4-Dinitrotoluene		630	U
84-66-2	Diethylphthalate		630	U.
7005-72-3	4-Chlorophenyl-phenyle	ther	630	
	Fluorene		630	
100-01-6	4-Nitroaniline		1600 [°]	
534-52-1	4,6-Dinitro-2-methylph	enol	1600	U
	N-nitrosodiphenylamine		630	
101-55-3	4-Bromophenyl-phenylet	her	630	
	Hexachlorobenzene		630	
	Pentachlorophenol		1600	
	Phenanthrene		630	
	Anthracene		630	
	Carbazole	<u> </u>	630	
84-74-2	Di-n-butylphthalate		630	
	Fluoranthene		630	
129-00-0			630	
85-68-7	Butylbenzylphthalate_		630	
91-94-1	3,3'-Dichlorobenzidine		630	•
56-55-3	Benzo (a) anthracene		630	
218-01-9	Chrysene	* * *	630	
117-81-7	bis(2-Ethylhexyl)phtha	late	630	
117-84-0	Di-n-octylphthalate		630	
205-99-2	Benzo(b) fluoranthene_		630	
207-08-9	Benzo(k) fluoranthene		630	,
50-32-8	Benzo(a)pyrene		630	
193-39-5	Indeno (1, 2, 3-cd) pyrene		630	
53-70-3	Dibenzo (a, h) anthracene		630	
191-24-2	Benzo(g,h,i)perylene_		630	U
) - Cannot be	e separated from Diphenylam	nine		I

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

JL897

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.: SDG No.: JL893

Lab Sample ID: 796337

Matrix: (soil/water) SOIL

Lab File ID: GH096337B04

Sample wt/vol: 30.3 (g/mL) g

Level: (low/med) LOW

Date Received: 04/11/96

% Moisture: 48

decanted: (Y/N) Y Date Extracted:04/17/96

Concentrated Extract Volume: 500 (uL) Date Analyzed: 04/20/96

Number TICs found: 10

Injection Volume: 2.0(uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y

pH: 7.6

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT		CONC.	-
		4.77			JAB
1.	ALDOL (BC)	5.55			JB, N
2.	UNKNOWN (BC)	16.46		290	TI N
3.	UNKNOWN CARBOXYLIC ACID	17.79		2100	270
4.	UNKNOWN				
5.	UNKNOWN	18.34		1300	
<u>6</u> .	UNKNOWN	18.79		190	
7.	UNKNOWN ALCOHOL	18.83		250	
8.	UNKNOWN	18.86		460	\\
9.	UNKNOWN	20.63		150	
10.	UNKNOWN	28.65		140	JN
11					
12.		l		_ 	
1 4 4 4					
14					
14. 15.					l
, 20.				•	
 					
1 10.					
1 13.					
1 20.					
1 41.					
22					
23.					
24.					
25.					
1 26.			ļ		
27.					
28.		ļ :	ļ		.
29.			i		-
30.		1			-
		·	l		-
1		1 .	1		.

FORM I SV-TIC

OLMO3.0

JL898

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.: SDG No.: JL893

Matrix: (soil/water) SOIL

Lab Sample ID: 796338

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: GH096338C54

Level: (low/med) LOW

Date Received: 04/11/96

% Moisture: not dec. 50

CAS NO. COMPOUND

Date Analyzed: 04/18/96

GC Column:DB624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Aliquot Volume: _____ (uL)

Soil Extract Volume: (uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) ug/Kg Q

74-87-3Chloromethane	{	ט ט
74-83-9Bromomethane	1	1
75-01-4Vinyl Chloride		ט
75-00-3Chloroethane	_ 1	U
75-09-2Methylene Chloride	_ 12	JB 45
67-64-1Acetone	_ 13	JB UJ
75-15-0Carbon Disulfide		ט 'ט
75-35-41,1-Dichloroethene		U
75-34-31,1-Dichloroethane		ע
540-59-01,2-Dichloroethene (total)		ט
67-66-3Chloroform	20	ן ט
107-06-21,2-Dichloroethane		U
78-93-32-Butanone		JUY 3
71-55-61,1,1-Trichloroethane	_ 20	ט ו
56-23-5Carbon Tetrachloride	20	ן מן
75-27-4Bromodichloromethane	20	ן ט
78-87-51,2-Dichloropropane		ן טו
10061-01-5cis-1,3-Dichloropropene		ן סוי
79-01-6Trichloroethene		ן סו
124-48-1Dibromochloromethane		ן מ
79-00-51,1,2-Trichloroethane		Ü
71-43-2Benzene		Ü
10061-02-6trans-1,3-Dichloropropene		ן מו
75-25-2Bromoform		UA E
108-10-14-Methyl-2-Pentanone	- 20	
591-78-62-Hexanone		עטוני
127-18-4Tetrachloroethene	1	1 7 '1
	20	1 \
79-34-51,1,2,2-Tetrachloroethane	20	
108-88-3Toluene	I	ū
108-90-7Chlorobenzene	20	
100-41-4Ethylbenzene	1	U
100-42-5Styrene	20	
1330-20-7Xylene (Total)	20	ן ט כ
		1 1

FORM I VOA

VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO

JL898	l
4	l

Lab Name: COMPUCHEM ENV. CORP.

Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.:

SDG No.: JL893

Matrix: (soil/water) SOIL

Lab Sample ID: 796338.

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: GH096338C54

Level:

(low/med) LOW

Date Received: 04/11/96

% Moisture: not dec. 50

Date Analyzed: 04/18/96

GC Column:DB624

ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Aliquot Volume: (uL)

Soil Extract Volume: (uL)

CONCENTRATION UNITS:

Number TICs found: 2 (ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 2. 3.	CO2 (NOT IN TIC TOTAL) LABORATORY ARTIFACT	0.84 17.68	96	BR
4 5 6.				
8. 9.				
10. 11. 12. 13.				
15				
17. 18. 19.				
20. 21. 22.				
24. 25. 26.				
28				
30				

OLMO3.0 10033

FORM I VOA-TIC

JL898

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.: SDG No.: JL893

Matrix: (soil/water) SOIL

Lab Sample ID: 796338

Sample wt/vol: 30.1 (g/mL) g

Lab File ID: GH096338B04

Level: (low/med) LOW

Date Received: 04/11/96

% Moisture: 44 decanted: (Y/N) Y

Date Extracted:04/17/96

Concentrated Extract Volume: 500(uL) Date Analyzed: 04/20/96

Injection Volume: 2.0(uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y

pH: 7.6

		CONCENTRATION UNITS:	
CAS NO.	COMPOUND	(ug/L or ug/Kg) ug/Kg	Q
14			

108-95-2Phenol_	590	_
111-44-4bis(2-Chloroethyl)ether	590	_
95-57-82-Chlorophenol	590	
541-73-11,3-Dichlorobenzene	590	
106-46-71,4-Dichlorobenzene		
95-50-11,2-Dichlorobenzene	590	
95-48-72-Methylphenol		_
108-60-12,2'-oxybis(1-Chloropropane)	590	_
106-44-54-Methylphenol	590	
621-64-7N-Nitroso-di-n-propylamine	590	
67-72-1Hexachloroethane	590	U
98-95-3Nitrobenzene	590	ប
78-59-1Isophorone	590	U
88-75-52-Nitrophenol	590	U
105-67-92,4-Dimethylphenol	590	U
111-91-1bis(2-Chloroethoxy)methane	590	ט
120-83-22,4-Dichlorophenol	590	U
120-82-11,2,4-Trichlorobenzene	590	U
91-20-3Naphthalene	590	Ū
106-47-84-Chloroaniline	590	לט
87-68-3Hexachlorobutadiene	590	
59-50-74-Chloro-3-methylphenol	590	1
91-57-62-Methylnaphthalene	590	1 -
77-47-4Hexachlorocyclopentadiene	590	1 -
88-06-22,4,6-Trichlorophenol	590	-
95-95-42,4,5-Trichlorophenol	1500	-
91-58-72-Chloronaphthalene	590	1 -
88-74-42-Nitroaniline	1500	_
131-11-3Dimethylphthalate	590	-
	590 590	(-
208-96-8Acenaphthylene		1
606-20-22,6-Dinitrotoluene	590	1
99-09-23-Nitroaniline	1500	1 -
83-32-9Acenaphthene	590	ĮŪ
		i

JL898

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.:

SDG No.: JL893

Matrix: (soil/water) SOIL

Lab Sample ID: 796338

Sample wt/vol: 30.1 (g/mL) g

Lab File ID: GH096338B04

Level: (low/med) LOW

Date Received: 04/11/96

% Moisture: 44 decanted: (Y/N) Y

Date Extracted: 04/17/96

Concentrated Extract Volume: 500(uL)

Date Analyzed: 04/20/96

Injection Volume: 2.0(uL)

CAS NO.

COMPOUND

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.6

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

51-28-5	2,4-Dinitrophenol	1500	บ
	4-Nitrophenol	1500	U
132-64-9	Dibenzofuran	590	บ
	2,4-Dinitrotoluene	590	ט
	Diethylphthalate	590	U
7005-72-3	4-Chlorophenyl-phenylether	590	U
36-73-7	Fluorene	590	υ
100-01-6	4-Nitroaniline	1500	ט
534-52-1	4,6-Dinitro-2-methylphenol	1500	บ
36-30-6	N-nitrosodiphenylamine (1)	590	U
101-55-3	4-Bromophenyl-phenylether	590	Ū
118-74-1	Hexachlorobenzene	590	ט
37-86-5	Pentachlorophenol	1500	נטן
35-01-8	Phenanthrene	590	
	Anthracene	590	U
36-74-8	Carbazole	590	U
34-74-2	Di-n-butylphthalate	590	שו
206-44-0	Fluoranthene	590	U
129-00-0	Pyrene	590	U
35-68 -7-	Butylbenzylphthalate	590	U
91-94-1	3,3'-Dichlorobenzidine	590	ט
56-55-3	Benzo (a) anthracene	590	lυ
218-01-9	Chrysene	590	Ū
L17-81-7	bis(2-Ethylhexyl)phthalate	590	
L17-84-0	Di-n-octylphthalate	590	ט
205-99-2	Benzo(b) fluoranthene	590	-
207-08-9	Benzo(k) fluoranthene	590	1
50-32-8	Benzo(a) pyrene	590	
193-39-5	Indeno(1,2,3-cd)pyrene	590	
53-70-3	Dibenzo (a, h) anthracene	590	1
191-24-2	Benzo(g,h,i)perylene	590	

(1) - Cannot be separated from Diphenylamine

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

JL898

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.:

SDG No.: JL893

Matrix: (soil/water) SOIL

Lab Sample ID: 796338

Sample wt/vol: 30.1 (g/mL) g

Lab File ID:

GH096338B04

Level: (low/med) LOW

Date Received: 04/11/96

% Moisture: 44

decanted: (Y/N) Y

Date Extracted: 04/17/96

Concentrated Extract Volume:

500 (սև)

Date Analyzed: 04/20/96

Injection Volume:

2.0(uL)

Dilution Factor: 1.0

GPC Cleanup:

(Y/N) Y pH: 7.6

Number TICs found: 5

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 2. 3. 4. 5.	ALDOL (BC) UNKNOWN (BC) UNKNOWN UNKNOWN UNKNOWN	4.76 5.55 16.47 17.99 18.31	20000	JAB R JU JI
7. 8. 9. 10.				
12. 13. 14. 15. 16. 17.				
19. 20. 21. 22. 23.				
24. 25. 26. 27.				
29. 30.				

FORM I SV-TIC

M_OLMO3.0

EPA SAMPLE NO.

JL899

Lab Name: COMPUCHEM ENV. CORP.

Contract: 68D50004

Lab Code: COMPU

Case No.: 24554 SAS No.:

SDG No.: JL893

Matrix: (soil/water) SOIL

Lab Sample ID: 796339

Sample wt/vol:

5.0 (g/mL) g

Lab File ID: GH096339C54

Level: (low/med) LOW

Date Received: 04/11/96

% Moisture: not dec. 45

Date Analyzed: 04/18/96

GC Column:DB624

ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) ug/Kg

74-87-3Chloromethane	18	_U
74-83-9Bromomethane	18	-
75-01-4Vinyl Chloride	18	
75-00-3Chloroethane	18	
75-09-2Methylene Chloride		JBUJ
67-64-1Acetone		TB NJ
75-15-0Carbon Disulfide	18	
75-35-41,1-Dichloroethene	18	1 1
75-34-31,1-Dichloroethane	18	
540-59-01,2-Dichloroethene (total)	18	
67-66-3Chloroform	18	
107-06-21,2-Dichloroethane	18	
78-93-32-Butanone	18	U. 1 %
71-55-61,1,1-Trichloroethane	18	ט ט
56-23-5Carbon Tetrachloride	18	
75-27-4Bromodichloromethane	18	1 - 1
78-87-51,2-Dichloropropane	18	1 1
10061-01-5cis-1,3-Dichloropropene	18	1 1
79-01-6Trichloroethene	18	1 - 1
124-48-1Dibromochloromethane	18	
79-00-51,1,2-Trichloroethane	18	
71-43-2Benzene	18	
10061-02-6trans-1,3-Dichloropropene	18	1 - 1
75-25-2Bromoform	18	USR
108-10-14-Methyl-2-Pentanone	18	
591-78-62-Hexanone		1 4 T
127-18-4Tetrachloroethene	18	
79-34-51,1,2,2-Tetrachloroethane	18	
108-88-3Toluene	18	1 1
108-90-7Chlorobenzene	18	
100-41-4Ethylbenzene	18	1 1
100-42-5Styrene		U I
1330-20-7Xylene (Total)		lŭ l
		<u>ار</u> آ
	l	.11

FORM I VOA

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VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JL899	
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Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.: SDG No.: JL893

Matrix: (soil/water) SOIL

Lab Sample ID: 796339

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: GH096339C54

Level: (low/med) LOW

Date Received: 04/11/96

% Moisture: not dec. 45

Date Analyzed: 04/18/96

GC Column: DB624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Aliquot Volume: ____(uL)

Soil Extract Volume:____(uL)

CONCENTRATION UNITS:

Number TICs found: 2 (ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 2.		0.86	71	BR BR
3. 4. 5.				
6. 7 7. 14 1.				
8. 9.				
11.				
12. 13. 14.				
15.				
17.				
19. 20. 21.				
22				
25.				
27.				
28. 29. 30.				
JU				

JL899

Lab Name: COMPUCHEM ENV. CORP.

Contract: 68D50004

SDG No.: JL893

Lab Code: COMPU

Case No.: 24554 SAS No.:

Matrix: (soil/water) SOIL

Lab Sample ID: 796339

Sample wt/vol:

30.2 (g/mL) g

Lab File ID: GH096339B04

Level: (low/med)

LOW

Date Received: 04/11/96

% Moisture: 39

decanted: (Y/N) Y

Date Extracted: 04/17/96

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 04/20/96

Injection Volume:

CAS NO.

2.0 (uL)

COMPOUND

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.5

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

<u> </u>	(-5,		
108-95-2	Phenol	540	บ
	bis(2-Chloroethyl)ether	540	ט
95-57-8	2-Chlorophenol	540	U
	1,3-Dichlorobenzene	540	U
	1,4-Dichlorobenzene	540	U
	1,2-Dichlorobenzene	540	Ū
95-48-7	2-Methylphenol	540	U
108-60-1	2,2'-oxybis(1-Chloropropane)	540	U
106-44-5	4-Methylphenol	540	υ.
	N-Nitroso-di-n-propylamine	540	U
	Hexachloroethane	540	U
	Nitrobenzene	540	ַט
78-59-1	Isophorone	540	U
88-75-5	2-Nitrophenol	540	U
105-67-9	2,4-Dimethylphenol	540	U
111-91-1	bis(2-Chloroethoxy) methane	540	שו
120-83-2	2,4-Dichlorophenol	540	U
120-82-1	1,2,4-Trichlorobenzene	540	U
91-20-3	Naphthalene	540	U
106-47-8	4-Chloroaniline	540	W
87-68-3	Hexachlorobutadiene	540	U
59-50-7	4-Chloro-3-methylphenol	540	U
91-57-6	2-Methylnaphthalene	540	U
77-47-4	Hexachlorocyclopentadiene	540	U
88-06-2	2,4,6-Trichlorophenol	540	ט
95-95-4	2,4,5-Trichlorophenol	1400	U
91-58-7	2-Chloronaphthalene	540	1
88-74-4	2-Nitroaniline	1400	1
131-11-3	Dimethylphthalate	540	
208-96-8	Acenaphthylene	540	t .
606-20-2	2,6-Dinitrotoluene	540	
99-09-2	3-Nitroaniline	1400	
83-32-9	Acenaphthene	540	1
		l	

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

JL899

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50004

Lab Code: COMPU

Case No.: 24554 SAS No.:

SDG No.: JL893

Matrix: (soil/water) SOIL

Lab Sample ID: 796339

Sample wt/vol:

30.2 (g/mL) g

Lab File ID:

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

GH096339B04

Level: (low/med)

LOW

Date Received: 04/11/96

% Moisture: 39

decanted: (Y/N) Y

Date Extracted:04/17/96

Concentrated Extract Volume:

500 (uL)

Date Analyzed: 04/20/96

Injection Volume: 2.0(uL)

CAS NO.

COMPOUND

53-70-3-----Dibenzo (a, h) anthracene

(1) - Cannot be separated from Diphenylamine

191-24-2-----Benzo(g,h,i)perylene

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y

pH: 7.5

			3	
	51-28-52,4-Dinitrophenol	1400 t	ן נ	
	100-02-74-Nitrophenol	1400 [J	
	132-64-9Dibenzofuran	540 T	J.	
	121-14-22,4-Dinitrotoluene	540 T	J	
	84-66-2Diethylphthalate	540 T	J	
	7005-72-34-Chlorophenyl-phenylether	540 t	J	
	86-73-7Fluorene	540 [J (
	100-01-64-Nitroaniline	1400 [י ד	
	534-52-14,6-Dinitro-2-methylphenol	1400 1	ן ל	
-	86-30-6N-nitrosodiphenylamine (1)	540 (J	
	101-55-34-Bromophenyl-phenylether	540 (ן נ	
	118-74-1Hexachlorobenzene	540 T	J	
	87-86-5Pentachlorophenol	1400 (טן	
٠	85-01-8Phenanthrene	540 (_	
	120-12-7Anthracene	540 (J	
	86-74-8Carbazole	540 1	-	
	84-74-2Di-n-butylphthalate	540	ט	ŀ
	206-44-0Fluoranthene	540	Ü	
	129-00-0Pyrene	540]	Ū	
	85-68-7Butylbenzylphthalate	540	-	
	91-94-13,3'-Dichlorobenzidine	540	U.	
	56-55-3Benzo (a) anthracene	540 1	-	
	218-01-9Chrysene	540 1	U	
	117-81-7bis(2-Ethylhexyl)phthalate	540 1	-	
-	117-84-0Di-n-octylphthalate	540	_	
	205-99-2Benzo (b) fluoranthene	540		}
	207-08-9Benzo(k) fluoranthene	540	U	1
	50-32-8Benzo(a)pyrene] 3.0	U	
	193-39-5Indeno(1,2,3-cd)pyrene	540	U	

FORM I SV-2

OLMO3.0

540 U 540 U

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

JL899

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.: SDG No.: JL893

Matrix: (soil/water) SOIL

Lab Sample ID: 796339

Sample wt/vol: 30.2 (g/mL) g

Lab File ID: GH096339B04

Level: (low/med) LOW

Date Received: 04/11/96

% Moisture: 39 decanted: (Y/N) Y Date Extracted:04/17/96

Concentrated Extract Volume: 500(uL) Date Analyzed: 04/20/96

Number TICs found: 4

Injection Volume: 2.0(uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.5

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

EST. CONC. RT CAS NUMBER COMPOUND NAME 4.78 22000 JAB & ALDOL (BC) 1100 JB & 5.56 UNKNOWN (BC) 2. 17.83 3. UNKNOWN 190 JN 18.38 UNKNOWN 4. 10. 11._ 12._ 14._ 15. 16. 17. 18. 19. 20. 22. 23. 24. 25. 26. 27. 28. 29. 30.

FORM I SV-TIC

Jalu OLMO3.0 00075

JL900

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.:

SDG No.: JL893

Matrix: (soil/water) SOIL

Lab Sample ID: 796764

Sample wt/vol: 5.0 (g/mL) g Lab File ID: GH096764A54

Level: (low/med) LOW

Date Received: 04/12/96

% Moisture: not dec. 39

Date Analyzed: 04/18/96

GC Column: DB624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Aliquot Volume: (uL)

Soil Extract Volume: (uL)

CONCENTRATION UNITS: CAS NO. COMPOUND

(ug/L or ug/Kg) ug/Kg

74 07 2	Chloromethane		1,	ย	
	Bromomethane	-1		รโบ	1
		-1		ธาช	1
	Vinyl Chloride			6 U	}
	Chloroethane			I JB- U	ď
	Methylene Chloride				3
67-64-1		-		6 JB U	4
	Carbon Disulfide	_		6 U	
	1,1-Dichloroethene	_		6 U	1
	1,1-Dichloroethane	_		6 U	1
	1,2-Dichloroethene (total)_	_		6 U	ļ
	Chloroform	_		e u	
	1,2-Dichloroethane	_1		6 U	1
78-93-3		_1		6 U/X X	1
	1,1,1-Trichloroethane	_ -	1		1.
56-23-5	Carbon Tetrachloride	<u> </u>	1	6 U	1.
75-27-4	Bromodichloromethane	-	1	6 U	1
78-87-5	1,2-Dichloropropane	-	. 1	6 U	ţ
	cis-1,3-Dichloropropene	7	1	6 U	1
	Trichloroethene	_	1	6 U	1
	Dibromochloromethane	-1	1	6 U	• [
	1,1,2-Trichloroethane	~	1	6 U	1
71-43-2		-	- 1	6 U	1
	trans-1,3-Dichloropropene	~	1	6 U .	/
75-25-2		-		6 Us 4	Si Si
	4-Methyl-2-Pentanone	-		6 U	9
591-78-6		-		6 Ur 7	١)
	Tetrachloroethene	-1		6 U	'
	1,1,2,2-Tetrachloroethane			6 U	
108-88-3		-		.6 U	1
	Chlorobenzene			6 U	1.
	Ethylbenzene .	-	-	.6 U	1
100-41-4		-		.6 U	
		-		.6 U	1 /
1330-20-7	Xylene (Total)	_	1	٥ ٥	
 		_1	 	_!	

FORM I VOA

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

JL900 Contract: 68D50004

Lab Name: COMPUCHEM ENV. CORP.

Lab Code: COMPU

Case No.: 24554 SAS No.:

SDG No.: JL893

Matrix: (soil/water) SOIL

Lab Sample ID: 796764

Sample wt/vol:

5.0 (g/mL) g

Lab File ID:

GH096764A54

Level: (low/med) LOW

Date Received: 04/12/96

% Moisture: not dec. 39

Date Analyzed: 04/18/96

GC Column: DB624

ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Number TICs found: 2

Soil Aliquot Volume:

(uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	
1. 2. 3.	CO2 (NOT IN TIC TOTAL) LABORATORY ARTIFACT	0.83 17.67	37	那只是人
5 6				
7. 8. 9.				
11. 12. 13. 14.				
16. 17.				
19				
21. 22. 23. 24.				
25. 26. 27.				
28. 29. 30.				

FORM I VOA-TIC

JL900

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.: SDG No.: JL893

Matrix: (soil/water) SOIL

Lab Sample ID: 796764

Sample wt/vol: 30.0 (g/mL) g Lab File ID: GH096764B04

Level: (low/med) LOW

Date Received: 04/12/96

% Moisture: 38 decanted: (Y/N) Y Date Extracted:04/17/96

Concentrated Extract Volume: 500(uL) Date Analyzed: 04/20/96

Injection Volume: 2.0(uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.9

CAS NO.	COMPOUND	CONCENTRATION (ug/L or ug/k		Q
95-57-8 541-73-1 106-46-7 95-50-1 95-48-7 108-60-1 106-44-5 621-64-7 88-95-3 105-67-9 111-91-1 120-83-2 120-83-2 120-82-1 91-20-3 106-47-8 91-57-6 91-57-6 91-57-6 91-58-7	Phenolbis (2-Chloroet2-Chlorophenol1,3-Dichlorobe1,4-Dichlorobe1,2-Dichlorobe2,2'-oxybis (14-Methylphenol2,2'-oxybis (1HexachloroetheNitroso-diHexachloroethe2,4-Dimethylphenol2,4-Dimethylphenol2,4-Dichlorophenol2,4-Dichlorophenol2,4-Trichlorophenol2,4-Trichlorophenol2,4-Trichlorophenol2,4-Trichlorophenol2,4-Trichlorophenol2,4-Trichlorophenol2,4-Trichlorophenol2,4-Trichlorophenol2-Methylnaphthene2-Chloronaphthene2-Nitroaniline2-Nitroaniline	enzene enzene enzene l-Chloropropane) l-propylamine nenol choxy) methane nenol robenzene ne diene chylphenol nalene lopentadiene rophenol nalene late	530 530 530 530 530 530 530 530 530 530	वववववववववववववववववववववववववववववववववववववव

FORM I SV-1

EPA SAMPLE NO.

JL900

Lab Name: COMPUCHEM ENV.

CORP.

Contract: 68D50004

Lab Code: COMPU

Case No.: 24554 SAS No.:

SDG No.: JL893

Matrix: (soil/water) SOIL

Lab Sample ID: 796764

Sample wt/vol:

30.0 (g/mL) g

Lab File ID:

GH096764B04

Level: (low/med) LOW Date Received: 04/12/96

% Moisture: 38

decanted: (Y/N) Y

Date Extracted:04/17/96

Concentrated Extract Volume: 500(uL)

Date Analyzed: 04/20/96

Injection Volume:

2.0 (uL)

Dilution Factor: 1.0

CONCENTRATION UNITS:

GPC Cleanup:

(Y/N) Y pH: 6.9

CAS NO.	COMPOUND	(ug/L or ug/Kg)	ug/kg	Q
E1 20 F	2 4 Dinitronhene	,	1300	TT
	2,4-Dinitropheno 4-Nitrophenol	' ¹	1300	_
	Dibenzofuran		530	
	2,4-Dinitrotolue		530	
	Diethylphthalate		530	
	4-Chlorophenyl-p		530	
	Fluorene	menaterner —	.530	
	4-Nitroaniline		1300	
		abadabaad	1300	
534-52-1	4,6-Dinitro-2-me	chytphenoi		
101 [[]	N-nitrosodipheny		530	
101-55-3	4-Bromophenyl-ph	enylether	530	
	Hexachlorobenzen		530	
87-86-5	Pentachloropheno)·1	1300	
	Phenanthrene		530	
	Anthracene		530	
	Carbazole		530	
84-74-2	Di-n-butylphthal	.ate	530	
	Fluoranthene		530	
129-00-0	Pyrene		530	
85-68-7	Butylbenzylphtha	late	530	
91-94-1	3,3°-Dichlorober	zidine	530	
56-55-3	Benzo (a) anthrace	ene	530	
218-01-9	Chrysene		530	
117-81-7	bis(2-Ethylhexyl)phthalate	530	U
117-84-0	Di-n-octylphthal	ate	530	U
205-99-2	Benzo(b) fluorant	hene	530	U
207-08-9	Benzo(k) fluorant	hene	530	U
50-32-8	Benzo(a)pyrene	-	530	U
193-39-5	$$ Indeno $(1,2,3-c\overline{d})$	pyrene	530	
53-70-3	Dibenzo(a,h)anth	racene	530	
191-24-2	Benzo(g,h,i)pery	lene	530	
	(3) ; ; 2		230	1

FORM I SV-2

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50004

JL900

Lab Code: COMPU Case No.: 24554 SAS No.:

SDG No.: JL893

Matrix: (soil/water) SOIL

Lab Sample ID: 796764

Sample wt/vol: 30.0 (g/mL) g

Lab File ID: GH096764B04

Level: (low/med) LOW

Date Received: 04/12/96

% Moisture: 38 decanted: (Y/N) Y

Date Extracted:04/17/96

Concentrated Extract Volume: 500 (uL) Date Analyzed: 04/20/96

Injection Volume: 2.0(uL)

Number TICs found: 5

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.9

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q =====
1. 2. 3. 4. 5.	ALDOL (BC) UNKNOWN UNKNOWN (BC) UNKNOWN LABORATORY ARTIFACT	4.79	25000 110 1400 110	JAB R JN R JN R JN R
6. 7. 8. 9.				
11. 12. 13. 14. 15.				
17. 18. 19.				
21. 22. 23. 24. 25.				
26. 27. 28. 29.				

FORM I SV-TIC

JL901

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.: SDG No.: JL893

Lab Sample ID: 796340 Matrix: (soil/water) SOIL

Sample wt/vol: 5.0 (g/mL) g Lab File ID: GH096340A54

Date Received: 04/11/96 Level: (low/med) LOW

% Moisture: not dec. 41 Date Analyzed: 04/18/96

GC Column:DB624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Aliquot Volume: ____(uL) Soil Extract Volume: (uL)

CONCENTRATION UNITS: CAS NO. COMPOUND (ug/L or ug/Kg) ug/Kg

	3.				
74-87-3	Chloromethane		17	U-	
	Bromomethane		17		
	Vinyl Chloride		17		
	Chloroethane		17		
	Methylene Chloride			JB U	3
67-64-1		•		TD .	1
	Carbon Disulfide			U di	J
	1,1-Dichloroethene	•	17	Ū	
	1,1-Dichloroethane	•	17		
	1,2-Dichloroethene (total)	•	17		
	Chloroform		17	-	
	1,2-Dichloroethane		17		
	2-Butanone	•		§ رٍ∪ ا	•
	1,1,1-Trichloroethane	<u>'</u>	17		•
	Carbon Tetrachloride	` ·	17	ט	
	Bromodichloromethane	1	17	U	
78-87-5	1,2-Dichloropropane	•	17	ט	
10061-01-5	cis-1,3-Dichloropropene	1	17	U .	·
79-01-6	Trichloroethene		17	ט	
124-48-1	Dibromochloromethane		17	ט	
79-00-5	1,1,2-Trichloroethane	•	17	U	
71-43-2			17	U	
10061-02-6	trans-1,3-Dichloropropene	1	17	ט .	t
	Bromoform		17	UZ Y	¥
	4-Methyl-2-Pentanone	1	17	U	
	2-Hexanone_		17	Us 7	¥
	Tetrachloroethene		17	Ŭ	P
	1,1,2,2-Tetrachloroethane		17	U	1
108-88-3]	. 17	Ū	!
108-90-7	Chlorobenzene		17		}
	Ethylbenzene		17	U	
100-42-5			17	U	1 /
1330-20-7	Xylene (Total)		17	U	
					1

FORM I VOA

lE -

EPA SAMPLE NO.

VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50004

JL901

Lab Code: COMPU Case No.: 24554 SAS No.: SDG No.: JL893

Matrix: (soil/water) SOIL

Lab Sample ID: 796340

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: GH096340A54

Level: (low/med) LOW

Date Received: 04/11/96

% Moisture: not dec. 41

Date Analyzed: 04/18/96

GC Column: DB624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Aliquot Volume: ____(uL)

Soil Extract Volume: (uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) ug/Kg Number TICs found: 2

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 2. 3.	CO2 (NOT IN TIC TOTAL) LABORATORY ARTIFACT	0.84	79 10	JB R
4.				
5. 6.				
7				
8. 9.				
.0.				
1.				
4. 5.				
.0 •				 -
.7. .8.				
9.				
i.k				
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8. 9.				
30.				

FORM I VOA-TIC

00039

JL901

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.: SDG No.: JL893

Matrix: (soil/water) SOIL Lab Sample ID: 796340

Sample wt/vol: 30.3 (g/mL) g Lab File ID: GH096340B04

Level: (low/med) LOW Date Received: 04/11/96

% Moisture: 38 decanted: (Y/N) Y Date Extracted:04/17/96

Concentrated Extract Volume: 500 (uL) Date Analyzed: 04/20/96

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.4

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) ug/Kg Q

	(45, 2 62 65		
108-95-2	Phenol		530 U
	bis(2-Chloroethyl)ether	_1	30 0
	2-Chlorophenol		30 U
	1,3-Dichlorobenzene	_1	30 U
	1,4-Dichlorobenzene		30 U
100-40-7	1,2-Dichlorobenzene	_1	530 U
	2-Methylphenol		530 U
			530 U
100-00-1	2,2'-oxybis(1-Chloropropane)		530 U
	4-Methylphenol		
621-64-/	N-Nitroso-di-n-propylamine_ Hexachloroethane		530 U
67-72-1	Hexachioroethane	<u>_1</u>	
	Nitrobenzene	I	530 U
/8-59-1	Isophorone	_1	530 U
105 55 0	2-Nitrophenol	1	530 U
105-67-9	2,4-Dimethylphenol		530 U
111-91-1	bis(2-Chloroethoxy)methane_	_	530 U
	2,4-Dichlorophenol	_ I	530 U -
	1,2,4-Trichlorobenzene		530 U
91-20-3	Naphthalene		530 U
	4-Chloroaniline	_ I	530 W
87-68-3	Hexachlorobutadiene		530 U
59-50-7	4-Chloro-3-methylphenol	1	530 U
91-57-6	2-Methylnaphthalene		530 U
77-47-4	Hexachlorocyclopentadiene		530 U
88-06-2	2,4,6-Trichlorophenol	i	530 U
95-95-4	2,4,5-Trichlorophenol	I	300 U
91-58-7	2-Chloronaphthalene	1	530 U
88-74-4	2-Nitroaniline		300 U
131-11-3	Dimethylphthalate	1	530 U
208-96-8	Acenaphthylene		530 บ
606-20-2	2,6-Dinitrotoluene		530 U
99-09-2	3-Nitroaniline	_ 1	300 U
83-32-9	Acenaphthene	_	530 U
		_ ·	

FORM I SV-1

00079

JL901

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50004

Lab Code: COMPU

Case No.: 24554 SAS No.: SDG No.: JL893

Matrix: (soil/water) SOIL

Lab Sample ID: 796340

Sample wt/vol: 30.3 (g/mL) g

Lab File ID: GH096340B04

Level: (low/med) LOW

Date Received: 04/11/96

% Moisture: 38 decanted: (Y/N) Y Date Extracted: 04/17/96

Concentrated Extract Volume: 500(uL)

CAS NO.

Date Analyzed: 04/20/96

Injection Volume: 2.0(uL)

COMPOUND

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.4

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

		,	
51-28-5	2,4-Dinitrophenol	1300	U
	4-Nitrophenol	1300	
	Dibenzofuran	530	
	2,4-Dinitrotoluene	530	~
	Diethylphthalate	530	Title and
	4-Chlorophenyl-phenylether_	530	L
86-73-7	Fluorene	530	
	4-Nitroaniline	1300	
	4,6-Dinitro-2-methylphenol	1300	<i>i</i>
	N-nitrosodiphenylamine (1)	530	_
101-55-3	4-Bromophenyl-phenylether	530	1 -
110-33-3	Hexachlorobenzene	530	-
	Pentachlorophenol	1300	1 -
	Phenanthrene	530	_
	Anthracene	530	1 -
	Carbazole	530	1 -
		4	
84-/4-2	Di-n-butylphthalate	530	
	Fluoranthene	530	
129-00-0		530	, -
85-68-7	Butylbenzylphthalate	530	1
91-94-1	3,3'-Dichlorobenzidine	530	
56-55-3	Benzo(a) anthracene	530	[
	Chrysene	530	1
117-81-7	bis(2-Ethylhexyl)phthalate	530	U
117-84-0	Di-n-octylphthalate	530	U
205-99-2	Benzo (b) fluoranthene	530	1
207-08-9	Benzo(k) fluoranthene	530	U
50-32-8	Benzo (a) pyrene	530	U
193-39-5	Indeno(1,2,3-cd)pyrene	530	U
53-70-3	Dibenzo (a, h) anthracene	530	U
191-24-2	Benzo(g,h,i)perylene	530	U
i) - Cannot be	separated from Diphenylamine	•	

FORM I SV-2

EPA SAMPLE NO.

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: COMPUCHEM ENV. CORP.

Contract: 68D50004

JL901

Lab Code: COMPU Case No.: 24554 SAS No.:

SDG No.: JL893

Matrix: (soil/water) SOIL

Lab Sample ID: 796340

Sample wt/vol: 30.3 (g/mL) g Lab File ID:

GH096340B04

Level: (low/med) LOW

Date Received: 04/11/96

% Moisture: 38 decanted: (Y/N) Y

Date Extracted: 04/17/96

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 04/20/96

Injection Volume: 2.0(uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.4

Number TICs found: 2

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q =====
1. 2. 3.	ALDOL (BC) UNKNOWN (BC)	4.77 5.55	20000	JAB R
4. 5.				
6. 7. 8.				
9. 10.				
11. 12. 13.				
15.				
16. 17. 18.				
19. 20. 21.				
22				
24. 25. 26.				
27. 28.		-		
29. 30.				

FORM I SV-TIC

EPA SAMPLE NO.

JL902

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.: SDG No.: JL893

Matrix: (soil/water) SOIL

Lab Sample ID: 796765

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: GH096765A54

Level: (low/med) LOW

Soil Extract Volume: (uL)

Date Received: 04/12/96

% Moisture: not dec. 52

Date Analyzed: 04/18/96

GC Column: DB624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Aliquot Volume: ____(uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) ug/Kg CAS NO. COMPOUND

			g ter
74-87-3	Chloromethane	21	ָט
74-83-9		l a company of the co	U
	Vinyl Chloride		บ
75-00-3	-Chloroethane		Ü
	Methylene Chloride		Br UJ
67-64-1		,	1 770
	Carbon Disulfide		W 41
	1,1-Dichloroethene		Ū
	1,1-Dichloroethane		บี
540-59-0	1,2-Dichloroethene (total)		Ü
67-66-3			ָּטׁ טו
	1,2-Dichloroethane		177 /
78-93-3			الا برتا
	1,1,1-Trichloroethane		U
-E6 33 E	Carbon Tetrachloride		Ü
	Bromodichloromethane		. U
	1,2-Dichloropropane		Ü
	cis-1,3-Dichloropropene		Ü
70 01 6	Trichloroethene	· ·	ָ ਹ
	Dibromochloromethane		ָן מ
	1,1,2-Trichloroethane	1	ָט ט
71-43-2	Panana		ָ ਹ
110061 00 6	trans-1,3-Dichloropropene		ם ב
75-25-2			N & YU
100 10 1	4-Methyl-2-Pentanone	21	-1
591-78-6	4-Methy1-2-Pentanone		עטון
	Z-Hexanone Tetrachloroethene	1 .	, ,
			LU
	1,1,2,2-Tetrachloroethane		<u>ן דו</u>
108-88-3	Toluene Chlorobenzene	1	ו נוט
			1 1
100 42 5	Ethylbenzene	•	LU
100-42-5			U
1330-20-/	Xylene (Total)	2.	ווט
		l <u></u>	_ _

FORM I VOA

VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JL902	

Lab Name: COMPUCHEM ENV. CORP.

Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.:

SDG No.: JL893

Matrix: (soil/water) SOIL

Lab Sample ID: 796765

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: GH096765A54

Level: (low/med) LOW

Date Received: 04/12/96

% Moisture: not dec. 52

Date Analyzed: 04/18/96

Dilution Factor: 1.0

GC Column:DB624 ID: 0.53 (mm)

Number TICs found: 2

Soil Aliquot Volume:

(uL)

Soil Extract Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

	<u> </u>		`	······
CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	- 1
1. 2. 3	CO2 (NOT IN TIC TOTAL) LABORATORY ARTIFACT	0.84	109	BB R
4 5				
7.				
10.				
11. 12. 13.				
15. 16.				
17. 18. 19.				
21.				
23.				
25. 26. 27.				
29				
30.				

FORM I VOA-TIC

JL904

Lab Name: CompuChem Env. Corp. Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.:

SDG No.: JL895

Matrix: (soil/water) SOIL

Lab Sample ID: 796993

Sample wt/vol: 30.3 (g/mL) g

Lab File ID: GH096993A02

Level: (low/med) LOW

Date Received: 04/15/96

Date Extracted:04/17/96

% Moisture: 49 decanted: (Y/N) N

Concentrated Extract Volume: 500(uL)

Date Analyzed: 04/19/96

Injection Volume: 2.0(uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.9

CONCENTRATION UNITS: COMPOUND (ug/L or ug/Kg) ug/Kg CAS NO.

			-
108-95-2	Phenol	640	U
	bis(2-Chloroethyl)ether	640	U
	2-Chlorophenol	640	
	1,3-Dichlorobenzene	640	ט
	1,4-Dichlorobenzene	640	
	1,2-Dichlorobenzene	640	
	2-Methylphenol	640	U
108-60-1	2,2'-oxybis(1-Chloropropane)	640	Ū
106-44-5	4-Methylphenol	640	
621-64-7	N-Nitroso-di-n-propylamine	640	ט
	Hexachloroethane	640	1 -
98-95-3	Nitrobenzene	640	-
78-59-1	Isophorone	640	-
88-75-5	2-Nitrophenol	640	U
	2,4-Dimethylphenol	640	Ü
	bis(2-Chloroethoxy)methane	640	U
	2,4-Dichlorophenol	640	U
	1,2,4-Trichlorobenzene	640	U
91-20-3	Naphthalene	640	ט
106-47-8	4-Chloroaniline	640	U
	Hexachlorobutadiene	640	U
	4-Chloro-3-methylphenol	640	
91-57-6	2-Methylnaphthalene	640	U
77-47-4	Hexachlorocyclopentadiene	640	U
88-06-2	2,4,6-Trichlorophenol	640	ט
95-95-4	2,4,5-Trichlorophenol	1600	U
91-58-7	2-Chloronaphthalene	640	, -
38-74-4	2-Nitroaniline	1600	U
131-11-3	Dimethylphthalate	640	1 -
208-96-8	Acenaphthylene	640	1 -
606-20-2	2,6-Dinitrotoluene	640	U
99-09-2	3-Nitroaniline	1600	1
83-32-9	Acenaphthene	640	1
		1	1
			•

FORM I SV-1

JL904

Lab Name: CompuChem Env. Corp. Contract: 68D50004

Lab Code: COMPU

Case No.: 24554 SAS No.:

SDG No.: JL895

Matrix: (soil/water) SOIL

Lab Sample ID: 796993

Sample wt/vol:

30.3 (g/mL) g

Lab File ID: GH096993A02

Level: (low/med)

Date Received: 04/15/96

% Moisture: 49

decanted: (Y/N) N

Date Extracted:04/17/96

Concentrated Extract Volume:

500 (uL)

Date Analyzed: 04/19/96

Injection Volume:

CAS NO.

2.0(uL)

COMPOUND

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y

pH: 6.9

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

Q

1600 U

51-28-5----2,4-Dinitrophenol 100-02-7----4-Nitrophenol 132-64-9-----Dibenzofuran 121-14-2----2,4-Dinitrotoluene 84-66-2-----Diethylphthalate 7005-72-3----4-Chlorophenyl-phenylether 86-73-7----Fluorene 100-01-6----4-Nitroaniline 534-52-1----4,6-Dinitro-2-methylphenol 86-30-6----N-nitrosodiphenylamine_(1)_ 101-55-3----4-Bromophenyl-phenylether 118-74-1-----Hexachlorobenzene 87-86-5-----Pentachlorophenol_ 85-01-8-----Phenanthrene 120-12-7-----Anthracene 86-74-8-----Carbazole 84-74-2-----Di-n-butylphthalate

206-44-0----Fluoranthene

85-68-7-----Butylbenzylphthalate

117-84-0-----Di-n-octylphthalate

50-32-8-----Benzo(a)pyrene

205-99-2----Benzo (b) fluoranthene

207-08-9-----Benzo(k) fluoranthene

191-24-2----Benzo(g,h,i)perylene

193-39-5-----Indeno (1,2,3-cd) pyrene

91-94-1----3,3'-Dichlorobenzidine 56-55-3-----Benzo (a) anthracene

117-81-7-----bis(2-Ethylhexyl)phthalate

129-00-0-----Pyrene

218-01-9-----Chrysene

1600 U 640 U 640 U 640 U 640 U 640 U 1600 U 1600 U 640 U 640 U 640 U 1600 U 640 U 80 J 640 U
(1) - Cannot be separated from Diphenylamine

53-70-3-----Dibenzo(a,h)anthracene

FORM I SV-2

SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

JL904

Lab Name: CompuChem Env. Corp. Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.:

SDG No.: JL895

Matrix: (soil/water) SOIL

Lab Sample ID: 796993

Sample wt/vol: 30.3 (g/mL) g Lab File ID: GH096993A02

Level: (low/med) LOW

Date Received: 04/15/96

% Moisture: 49 decanted: (Y/N) N Date Extracted: 04/17/96

Concentrated Extract Volume: 500 (uL) Date Analyzed: 04/19/96

Injection Volume: 2.0(uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.9

Number TICs found: 7

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	
1. 2. 3. 4. 5. 6. 7.	ALDOL (BC) UNKNOWN UNKNOWN UNKNOWN UNKNOWN UNKNOWN UNKNOWN	4.45 17.40 17.60 17.62 24.53 24.56 25.91	7400 320 160 140 320	JANE 1 J J J J J
9. 10. 11. 12.				
15. 16. 17.				
19				
24. 25. 26. 27. 28. 29.				
30.				

FORM I SV-TIC

Ju QUOLMO3.0

EPA SAMPLE NO.

JL905

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.: SDG No.: JL895

Matrix: (soil/water) SOIL

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: GH096994A55

Level: (low/med) LOW

Date Received: 04/15/96

Lab Sample ID: 796994

% Moisture: not dec. 49

Date Analyzed: 04/17/96

GC Column:DB624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume:____(uL)

Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg Q

CAS NO. COMPOUND

		<u>.</u>
74-87-3Chloromethane	20	נט
74-83-9Bromomethane	. 20	ט
75-01-4Vinyl Chloride	20	ט
75-00-3Chloroethane	20	ט
75-09-2Methylene Chloride	13	JB US
67-64-1Acetone		ֹ עַטֹּ
75-15-0Carbon Disulfide	20	U
75-35-41,1-Dichloroethene	20	ט
75-34-31,1-Dichloroethane	20	U
540-59-01,2-Dichloroethene (total)	. 20	U-
67-66-3Chloroform	20	ט
107-06-21,2-Dichloroethane	20	U
78-93-32-Butanone	20	עט
71-55-61,1,1-Trichloroethane	20	ט
56-23-5Carbon Tetrachloride	. 20	U .
75-27-4Bromodichloromethane	20	U
78-87-51,2-Dichloropropane	. 20	U
10061-01-5cis-1,3-Dichloropropene	20	ַּט
79-01-6Trichloroethene	20	U
124-48-1Dibromochloromethane	· 20	U
79-00-51,1,2-Trichloroethane	20	ט
71-43-2Benzene	20	ַט
10061-02-6trans-1,3-Dichloropropene	20	טו
75-25-2Bromoform	20	נטו
108-10-14-Methyl-2-Pentanone	20	טו
591-78-62-Hexanone	20	UU
127-18-4Tetrachloroethene	20	טו
79-34-51,1,2,2-Tetrachloroethane	. 20	י ע
108-88-3Toluene	20	υ
108-90-7Chlorobenzene	20) U
100-41-4Ethylbenzene	20	טו
100-42-5Styrene	20	ט (ט
1330-20-7Xylene (Total)	20	טו
		1

FORM I VOA

VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

	l
JL905	l
	l

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.: SDG No.: JL895

Lab Sample ID: 796994 Matrix: (soil/water) SOIL

Sample wt/vol: 5.0 (g/mL) g Lab File ID: GH096994A55

Level: (low/med) LOW Date Received: 04/15/96

Date Analyzed: 04/17/96 % Moisture: not dec. 49

GC Column:DB624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: ____(uL) Soil Aliquot Volume: ____(uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) ug/Kg Number TICs found: 1

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	
1. 2	LABORATORY ARTIFACT	00 65	14	B K
3. 4.	-			
6.				
8				
9. 0.				
1				
4 5				
6. 7.				
9				
0				
4 3.				
±. 5.				
6. 7.				
8 9 0.				

FORM I VOA-TIC

EPA SAMPLE NO.

JL905

Lab Name: CompuChem Env. Corp. Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.:

SDG No.: JL895

Matrix: (soil/water) SOIL

Lab Sample ID: 796994

Sample wt/vol: 30.3 (g/mL) g

Lab File ID: GH096994A02

CONCENTRATION UNITS:

Level: (low/med) LOW

Date Received: 04/15/96

% Moisture: 48 decanted: (Y/N) N Date Extracted:04/17/96

Concentrated Extract Volume: 500(uL) Date Analyzed: 04/19/96

Injection Volume: 2.0(uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.6

108-95-2			
111-44-4	Pnenol	630	U
~~~ ~~ ~~ ~~ ~~ ~~ ~~ ~~ ~~ ~~ ~~ ~~ ~~	bis(2-Chloroethyl)ether	630	Ū
	2-Chlorophenol	630	U
541-73-1	1,3-Dichlorobenzene	630	U
106-46-7	1,4-Dichlorobenzene	630	U
95-50-1	1,2-Dichlorobenzene	630]	U
95-48-7	2-Methylphenol	630	U
	2,2'-oxybis(1-Chloropropane)	630	U
106-44-5	4-Methylphenol	630	U
	N-Nitroso-di-n-propylamine	630	U
	Hexachloroethane	630	
98-95-3	Nitrobenzene	630	U
78-59-1	Isophorone	630	U
	2-Nitrophenol	630	U
105-67-9	2,4-Dimethylphenol	630	บ
111-91-1	bis(2-Chloroethoxy) methane	630	U
120-83-2	2,4-Dichlorophenol	630	U
120-82-1	1,2,4-Trichlorobenzene	630	U
91-20-3	Naphthalene	630	U
106-47-8	4-Chloroaniline	630	U
87-68-3	Hexachlorobutadiene	630	U
	4-Chloro-3-methylphenol	630	U
91-57-6	2-Methylnaphthalene	630	Ū
77-47-4	Hexachlorocyclopentadiene	630	U
88-06-2	2,4,6-Trichlorophenol	630	
95-95-4	2,4,5-Trichlorophenol	1600	
91-58-7	2-Chloronaphthalene	630	U
88-74-4	2-Nitroaniline	1600	
131-11-3	Dimethylphthalate	630	1
208-96-8	Acenaphthylene	630	
606-20-2	2,6-Dinitrotoluene	630	
99-09-2	3-Nitroaniline	1600	
02-22 0-	Acenaphthene	630	

FORM I SV-1

JL905

Lab Name: CompuChem Env. Corp.

Contract: 68D50004

Lab Code: COMPU

Case No.: 24554 SAS No.:

SDG No.: JL895

Matrix: (soil/water) SOIL

Lab Sample ID: 796994

Sample wt/vol:

30.3 (g/mL) g

Lab File ID:

CONTOURNED A TITON TINITITE.

GH096994A02

Level: (low/med)

LOW

Date Received: 04/15/96

% Moisture: 48 decanted: (Y/N) N

Date Extracted: 04/17/96

Concentrated Extract Volume: 500(uL)

Date Analyzed: 04/19/96

Injection Volume: 2.0(uL)

Dilution Factor: 1.0

GPC Cleanup:

(Y/N) Y

pH: 6.6

CAS NO. COMPOUND (ug/L or ug			Q	
51-28-5	2,4-Dinitroph	enol	1600	U
	4-Nitrophenol		1600	U
132-64-9	Dibenzofuran		630	
121-14-2	2,4-Dinitroto	luene	630	ַ ען

630 U 84-66-2-----Diethylphthalate 630 U 7005-72-3----4-Chlorophenyl-phenylether 630 U 86-73-7-----Fluorene 100-01-6-----4-Nitroaniline 1600 U 1600 U 534-52-1----4,6-Dinitro-2-methylphenol 86-30-6----N-nitrosodiphenylamine (1) 630 U 101-55-3----4-Bromophenyl-phenylether 630 U 118-74-1-----Hexachlorobenzene 630 U 87-86-5----Pentachlorophenol 1600 U 630 U 85-01-8-----Phenanthrene 630 U 120-12-7-----Anthracene 630 U 86-74-8-----Carbazole 84-74-2-----Di-n-butylphthalate 630 U 630 U 206-44-0-----Fluoranthene 630 U 129-00-0-----Pyrene 85-68-7-----Butylbenzylphthalate 630 U 91-94-1-----3,3'-Dichlorobenzidine 630 U 56-55-3-----Benzo(a) anthracene 630 U 218-01-9-----Chrysene 630 U 117-81-7-----bis(2-Ethylhexyl)phthalate 92 J 117-84-0-----Di-n-octylphthalate 630 U 205-99-2----Benzo (b) fluoranthene 630 U 630 U 207-08-9-----Benzo(k) fluoranthene 50-32-8-----Benzo (a) pyrene 630 U 193-39-5----Indeno(1,2,3-cd)pyrene 630 U 53-70-3-----Dibenzo(a,h)anthracene 630 U 191-24-2----Benzo(g,h,i)perylene 630 U

(1) - Cannot be separated from Diphenylamine

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

Lab Name: CompuChem Env. Corp. Contract: 68D50004

JL905

Lab Code: COMPU

Case No.: 24554 SAS No.:

SDG No.: JL895

Matrix: (soil/water) SOIL

Lab Sample ID: 796994

Sample wt/vol:

30.3 (g/mL) g

Lab File ID: GH096994A02

Level: (low/med) LOW

Date Received: 04/15/96

% Moisture: 48 decanted: (Y/N) N

Date Extracted: 04/17/96

Concentrated Extract Volume: 500(uL)

Date Analyzed: 04/19/96

Injection Volume: 2.0(uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.6

Number TICs found: 5

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q	
1. 2. 3.	ALDOL (BC) LABORATORY ARTIFACT UNKNOWN ALCOHOL	4.48 10.83 15.77	7100 130 280	ar K√ J	
4. 5. 6.	UNKNOWN UNKNOWN	17.63 17.82	180 230	J ⊹	·
7. 8. 9.					
10. 11. 12.					
13. 14. 15.					
17. 18.					
20					
23					
26. 27.					
28. 29. 30.					
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FORM I SV-TIC

WI WOLMO3.0

EPA SAMPLE NO.

JL906

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.: SDG No.: JL895

Matrix: (soil/water) SOIL

Lab Sample ID: 796995

Sample wt/vol: 5.0 (g/mL) g Lab File ID: GH096995A55

Level: (low/med) LOW

CAS NO. COMPOUND

Date Received: 04/15/96

% Moisture: not dec. 52

Date Analyzed: 04/17/96

GC Column:DB624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Aliquot Volume: (uL)

Soil Extract Volume: (uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) ug/Kg

74-87-3Chloromethane	21 U J	
74-83-9Bromomethane	21 U	
75-01-4Vinyl Chloride	21 U	
75-00-3Chloroethane	21 U	
75-09-2Methylene Chloride	13 JB UJ	
67-64-1Acetone	21 01	
75-15-0Carbon Disulfide	21 0	ı
75-35-41,1-Dichloroethene	21 U	
75-34-31,1-Dichloroethane	21 0	ı
540-59-01,2-Dichloroethene		
67-66-3Chloroform	21 0	ı
107-06-21,2-Dichloroethane	21 0	!
78-93-32-Butanone	21 0	ı
71-55-61,1,1-Trichloroetha		
56-23-5Carbon Tetrachloric		į
75-27-4Bromodichloromethan		1
78-87-51,2-Dichloropropane		
10061-01-5cis-1,3-Dichloropro		İ
79-01-6Trichloroethene	- 21 0	ĺ
124-48-1Dibromochloromethar		ĺ
79-00-51,1,2-Trichloroetha		ĺ
71-43-2Benzene	21 0	
10061-02-6trans-1,3-Dichloron		
75-25-2Bromoform	21 ט	
108-10-14-Methyl-2-Pentanor		ĺ
591-78-62-Hexanone	21 1	į
127-18-4Tetrachloroethene	21 0	l
79-34-51,1,2,2-Tetrachloro		
108-88-3Toluene	21 U	
108-90-7Chlorobenzene	21 0	
100-41-4Ethylbenzene	21 U	
100-42-5Styrene	21 0	
1330-20-7Xylene (Total)	21 0	}
1550-20-7-1-1-Nytene (10td1)		

### 1E

# VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JL906
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Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.: SDG No.: JL895

Matrix: (soil/water) SOIL

Lab Sample ID: 796995

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: GH096995A55

Level: (low/med) LOW

Date Received: 04/15/96

% Moisture: not dec. 52

Date Analyzed: 04/17/96

GC Column:DB624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume:

_(uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

Number TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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20.				
29.				
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FORM I VOA-TIC

EPA SAMPLE NO.

# SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

JL906

Lab Name: CompuChem Env. Corp. Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.: SDG No.: JL895

Matrix: (soil/water) SOIL

Lab Sample ID: 796995

Sample wt/vol:

30.4 (g/mL) g Lab File ID: GH096995A02

Level: (low/med) LOW

Date Received: 04/15/96

% Moisture: 52 decanted: (Y/N) N Date Extracted: 04/17/96

Concentrated Extract Volume: 500 (uL)

CAS NO.

Date Analyzed: 04/19/96

Injection Volume: 2.0(uL)

COMPOUND

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.8

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg Q

CAS NO.	(49/2 01 49		× .
108-95-2	Phenol	680	U
111-44-4	bis(2-Chloroethyl)ether	680	U:
95-57-8	2-Chlorophenol	680	Unite
	1,3-Dichlorobenzene	680	U
106-46-7	1,4-Dichlorobenzene	680	U
95-50-1	1,2-Dichlorobenzene	680	U.
	2-Methylphenol	680	U
108-60-1	2,2'-oxybis(1-Chloropropane)	680	U_
106-44-5	4-Methylphenol	680	Ū.
621-64-7	N-Nitroso-di-n-propylamine_	680	U
67-72-1	Hexachloroethane	680	U
98-95-3	Nitrobenzene	680	U
78-59-1	Isophorone	680	
88-75-5	2-Nitrophenol	680	1
105-67-9	2,4-Dimethylphenol	680	ט
111-91-1	bis(2-Chloroethoxy) methane	680	1
	2,4-Dichlorophenol	680	1
120-82-1	1,2,4-Trichlorobenzene	680	1
91-20-3	Naphthalene	680	
106-47-8	4-Chloroaniline	680	L
	Hexachlorobutadiene	680	
59-50-7	4-Chloro-3-methylphenol_	680	4
91-57-6	2-Methylnaphthalene	680	,
77-47-4	Hexachlorocyclopentadiene	680	
88-06-2	2,4,6-Trichlorophenol	680	
95-95-4	2,4,5-Trichlorophenol	1700	
91-58-7	2-Chloronaphthalene	680	
88-74-4	2-Nitroaniline	1700	1
131-11-3	Dimethylphthalate	- 680	1
208-96-8	Acenaphthylene	680	
606-20-2	2,6-Dinitrotoluene	680	
99-09-2	3-Nitroaniline	1700	i i
83-32-9	Acenaphthene	- 680	1
		-1	
	1	- I <del></del>	.

FORM I SV-1

OLMO3.0

Lab Name: CompuChem Env. Corp. Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.: SDG No.: JL895

Matrix: (soil/water) SOIL

Lab Sample ID: 796995

Sample wt/vol: 30.4 (g/mL) g

Lab File ID: GH096995A02

Level: (low/med) LOW

Date Received: 04/15/96

% Moisture: 52 decanted: (Y/N) N Date Extracted: 04/17/96

Concentrated Extract Volume: 500(uL) Date Analyzed: 04/19/96

Injection Volume: 2.0(uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.8

CAS NO.	COMPOUND	(ug/L or ug/Kg)		Q
51-28-5	2,4-Dinitroph	nenol	1700	U
100-02-7	4-Nitrophenol		1700	Ū
132-64-9	Dibenzofuran		680	U

1			
١	51-28-52,4-Dinitrophenol	1700	U
1	100-02-74-Nitrophenol	1700	U
١	132-64-9Dibenzofuran	680	ט
1	121-14-22,4-Dinitrotoluene	680	ט
1	84-66-2Diethylphthalate	680	ט
1	7005-72-34-Chlorophenyl-phenylether	680	ប
1	86-73-7Fluorene	. 680	ีบ
	100-01-64-Nitroaniline	1700	ן ט
1	534-52-14,6-Dinitro-2-methylphenol	1700	ט
1	86-30-6N-nitrosodiphenylamine (1)	680	ט ו
1	101-55-34-Bromophenyl-phenylether	680	ן ט
	118-74-1Hexachlorobenzene	680	ט
1	· 87-86-5Pentachlorophenol	1700	U
1	85-01-8Phenanthrene	· 680	<b>ט</b>
1	120-12-7Anthracene	680	[ ט
١	86-74-8Carbazole	680	<b>ט</b>
-	84-74-2Di-n-butylphthalate	680	ן ט
1	206-44-0Fluoranthene	680	U
	129-00-0Pyrene	680	ן ט
1	85-68-7Butylbenzylphthalate	680	U
Ì	91-94-13,3'-Dichlorobenzidine	680	ן ט
1	56-55-3Benzo (a) anthracene	680	ן ט
1	218-01-9Chrysene	680	U
	117-81-7bis(2-Ethylhexyl)phthalate	97	, ,
1	117-84-0Di-n-octylphthalate	680	U
-	205-99-2Benzo (b) fluoranthene	680	Ū
1	207-08-9Benzo(k) fluoranthene	680	ן ט
-	50-32-8Benzo (a) pyrene	680	ט
1	193-39-5Indeno(1,2,3-cd)pyrene	680	U
	53-70-3Dibenzo(a,h)anthracene	680	1
١,	191-24-2Benzo(g,h,i)perylene	680	ע

(1) - Cannot be separated from Diphenylamine

JUN 194

EPA SAMPLE NO.

### SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

JL906 Contract: 68D50004

Lab Name: CompuChem Env. Corp.

Lab Code: COMPU

Case No.: 24554 SAS No.:

SDG No.: JL895

Matrix: (soil/water) SOIL

Lab Sample ID: 796995

Sample wt/vol: 30.4 (g/mL) g

Lab File ID: GH096995A02

Level: (low/med) LOW

Date Received: 04/15/96

% Moisture: 52 decanted: (Y/N) N

Date Extracted: 04/17/96

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 04/19/96

Injection Volume: 2.0(uL)

Number TICs found: 4

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y

pH: 6.8

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 2. 3. 4.	ALDOL (BC) UNKNOWN UNKNOWN UNKNOWN	4.48 15.79 17.63 17.82	7700 240 230 190	J
5. 6. 7. 8. 9.				
10. 11. 12. 13.				
15. 16. 17.				
20. 21. 22.				
23. 24. 25. 26. 27.				
28. 29. 30.				

FORM I SV-TIC

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Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.:

SDG No.: JL895

Matrix: (soil/water) SOIL

Lab Sample ID: 796996

Sample wt/vol:

5.0 (g/mL) g

Lab File ID: GH096996A55

Level: (low/med) LOW

Date Received: 04/15/96

% Moisture: not dec. 43

Date Analyzed: 04/17/96

GC Column:DB624

ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: ____(uL)

Soil Aliquot Volume:

CONCENTRATION UNITS:

CAS NO. COMPOUND

(ug/L or ug/Kg) ug/Kg

(uL)

CLE NO.	(45, 2 62 45	,,,		
74-87-3	Chloromethane		18 (	
	Bromomethane		18 (	
	Vinyl Chloride		18 1	
75-00-3	Chloroethane		18 (	-
	Methylene Chloride	· ·		HE W
67-64-1	Acetone		181	
	Carbon Disulfide	1	18 1	
	1,1-Dichloroethene	1	18 1	
	1,1-Dichloroethane		18 1	-
540-59-0	1,2-Dichloroethene (total)		18 1	_
	Chloroform	•	18	
	1,2-Dichloroethane	•	18 1	_
	2-Butanone	•]	18 1	
	1,1,1-Trichloroethane	·  .	18 1	_
	Carbon Tetrachloride	•	18 1	
	Bromodichloromethane	1	18	
	1,2-Dichloropropane		18	
10061-01-5	cis-1,3-Dichloropropene	•	18	
79-01-6	Trichloroethene	·	18	
	Dibromochloromethane	•	18	
	1,1,2-Trichloroethane	•	18	
71-43-2		•	18	
	trans-1,3-Dichloropropene	-[	18	
75-25-2	Bromoform	•	18	
	4-Methyl-2-Pentanone	-	18	
591-78-6	2-Hexanone	-   '	18	
	Tetrachloroethene	-		
	1,1,2,2-Tetrachloroethane	-	18	
108-88-3		-	18	-
	Chlorobenzene	-1	18	_
100-41-4	Ethylbenzene	-	18	
100-42-5	Styrene	-	18	
	Xylene (Total)	-	18	
		-		-
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FORM I VOA

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### VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

1		
	JL907	

EPA SAMPLE NO.

Lab 1	Name:	COMPUCHEM	ENV.	CORP.
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Contract: 68D50004

Lab Code: COMPU

Case No.: 24554 SAS No.:

SDG No.: JL895

Matrix: (soil/water) SOIL

Lab Sample ID: 796996

Sample wt/vol:

5.0 (g/mL) g

Lab File ID: GH096996A55

Level: (low/med) LOW

Date Received: 04/15/96

% Moisture: not dec. 43

Number TICs found: 0

Date Analyzed: 04/17/96

GC Column:DB624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Aliquot Volume: ____(uL)

Soil Extract Volume: (uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) ug/Kg

- '	COMPOUND NAME	RT	EST. CONC.	· -
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FORM I VOA-TIC

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## SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

JL907

Lab Name: CompuChem Env. Corp. Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.:

SDG No.: JL895

Matrix: (soil/water) SOIL

Lab Sample ID: 796996

Sample wt/vol:

30.2 (g/mL) g

Lab File ID: GH096996A02

Level: (low/med) LOW

Date Received: 04/15/96

CONCENTRATION UNITS:

% Moisture: 43

decanted: (Y/N) N Date Extracted: 04/17/96

Concentrated Extract Volume: 500(uL) Date Analyzed: 04/19/96

Injection Volume: 2.0(uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.8

CAS NO.	COMPOUND	(ug/L or ug,	/Kg) ug/Kg	Q
108-95-2	Phenol		580	U
111-44-4	bis(2-Chloroet	hyl)ether.	580	ט
	2-Chlorophenol		580	U
	1,3-Dichlorobe		580	ับ [
	1,4-Dichlorobe		580	ט
	1,2-Dichlorobe		580	U
95-48-7	2-Methylphenol		580	ט
108-60-1	2,2'-oxybis(1-	Chloropropane)	- 580	ט
106-44-5	4-Methylphenol		580	
	N-Nitroso-di-n	-propylamine	580	
67-72-1	Hexachloroetha	ne	580	ָ ד
98-95-3	Nitrobenzene		580	1
78-59-1	Isophorone		580	
88-75-5	2-Nitrophenol	· · · · · · · · · · · · · · · · · · ·	580	1
	2,4-Dimethylpn	enol	580	
	bis(2-Chloroet		580	
120-83-2	2,4-Dichloroph	enol	580	
	1,2,4-Trichlor		580	
	Naphthalene		580	
106-47-8	4-Chloroanilin	e	580	-
	Hexachlorobuta		580	
	4-Chloro-3-met		580	
91-57-6	2-Methylnaphth	alene	580	
77-47-4	Hexachlorocycl	opentadiene	580	
88-06-2	2,4,6-Trichlor	ophenol	580	
95-95-4	2,4,5-Trichlor	ophenol	1400	
91-58-7	2-Chloronaphth	alene	580	1
88-74-4	2-Nitroaniline		1400	
131-11-3	Dimethylphthal	ate	580	
208-96-8	Acenaphthylene	<del></del>	580	
606-20-2	2,6-Dinitrotol	nene	580	4
99-09-2	3-Nitroaniline		1400	1
83-32-9	Acenaphthene		580	•
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FORM I SV-1

OLMO3.0

Lab Name: CompuChem Env. Corp. Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.:

SDG No.: JL895

Matrix: (soil/water) SOIL

Lab Sample ID: 796996

Sample wt/vol:

30.2 (g/mL) g

Lab File ID: GH096996A02

Level: (low/med) LOW

Date Received: 04/15/96

% Moisture: 43 decanted: (Y/N) N Date Extracted:04/17/96

Concentrated Extract Volume: 500(uL) Date Analyzed: 04/19/96

Injection Volume: 2.0(uL)

Dilution Factor: 1.0

CONCENTRATION UNITS:

GPC Cleanup:

(Y/N) Y pH: 6.8

CAS NO.	COMPOUND (ug/L or ug/	/Kg) ug/Kg	Q
51-28-5	2,4-Dinitrophenol	1400	ับ
	4-Nitrophenol	1400	U
	Dibenzofuran	580	U.
121-14-2	2,4-Dinitrotoluene	580	U
	Diethylphthalate	580	U
	4-Chlorophenyl-phenylether	580	Ū
	Fluorene	580	U
100-01-6	4-Nitroaniline	1400	U
534-52-1	4,6-Dinitro-2-methylphenol	1400	U
	N-nitrosodiphenylamine (1)	580	U
	4-Bromophenyl-phenylether	580	Ū
118-74-1	Hexachlorobenzene	580	U
	Pentachlorophenol	1400	U
85-01-8	Phenanthrene	580	U
	Anthracene	580	U
86-74-8	Carbazole	580	U
84-74-2	Di-n-butylphthalate	580	ט
	Fluoranthene	580	บ
129-00-0	Pyrene	580	U
85-68-7	Butylbenzylphthalate	580	U
91-94-1	3,3'-Dichlorobenzidine	580	U
	Benzo (a) anthracene	580	U
218-01-9	Chrysene	580	ប
117-81-7	bis(2-Ethylhexyl)phthalate	88	J
117-84-0	Di-n-octylphthalate	580	U
205-99-2	Benzo (b) fluoranthene	580	
207-08-9	Benzo(k) fluoranthene	580	ט
50-32-8	Benzo (a) pyrene	580	
193-39-5	Indeno(1,2,3-cd)pyrene	580	
53-70-3	Dibenzo(a,h)anthracene	580	
191-24-2	Benzo(g,h,i)perylene	580	
			1

FORM I SV-2

OLM03.0

EPA SAMPLE NO.

## SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

JL907

Lab Name: CompuChem Env. Corp. Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.:

SDG No.: JL895

Matrix: (soil/water) SOIL

Lab Sample ID: 796996

Sample wt/vol: 30.2 (g/mL) g

Lab File ID:

GH096996A02

Level: (low/med)

Date Received: 04/15/96

% Moisture: 43

decanted: (Y/N) N

Date Extracted: 04/17/96

Concentrated Extract Volume:

500 (uL)

Date Analyzed: 04/19/96

Injection Volume: 2.0(uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y

pH: 6.8

Number TICs found: 9

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 2. 3. 4. 5. 6. 7. 8. 9. 10	ALDOL (BC) UNKNOWN ALCOHOL UNKNOWN ALCOHOL UNKNOWN UNKNOWN UNKNOWN UNKNOWN UNKNOWN UNKNOWN	4.48 4.69 15.80 16.40 17.63 17.82 24.89 24.92 25.92	7000 120 240 120 360 280 250	フ リ リ リ リ リ リ
14. 15. 16. 17. 18. 19.				
21. 22. 23. 24. 25. 26. 27. 28.				

FORM I SV-TIC

## VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JL908

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.:

SDG No.: JL893

Matrix: (soil/water) SOIL

Lab Sample ID: 796766

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: GH096766A54

Level: (low/med) LOW

Date Received: 04/12/96

% Moisture: not dec. 33

CAS NO.

Date Analyzed: 04/18/96

GC Column:DB624 ID: 0.53 (mm)

COMPOUND

Dilution Factor: 1.0

Soil Aliquot Volume: (uL)

Soil Extract Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

Q

74-87-3Chloromethane	•	15 U
74-83-9Bromomethane		15 U
75-01-4Vinyl Chloride		15 U
75-00-3Chloroethane		15 U
75-09-2Methylene Chloride		14 JB U
67-64-1Acetone		5 118
75-15-0Carbon Disulfide		15 0
75-35-41,1-Dichloroethene		15 U
75-34-31,1-Dichloroethane	ļ	15 U
540-59-01,2-Dichloroethene (total)		15 U
67-66-3Chloroform		15 U
107-06-21,2-Dichloroethane	į .	15 U
78-93-32-Butanone		15 0
71-55-61,1,1-Trichloroethane		15 U
56-23-5Carbon Tetrachloride	,	15 U
75-27-4Bromodichloromethane		15 0
		15 0
78-87-51,2-Dichloropropane		15 U
10061-01-5cis-1,3-Dichloropropene	1	15 U
79-01-6Trichloroethene	,	
124-48-1Dibromochloromethane		15 U
79-00-51,1,2-Trichloroethane		15 U
71-43-2Benzene		15 U
10061-02-6trans-1,3-Dichloropropene		15 U
75-25-2Bromoform	.}	15 U .
108-10-14-Methyl-2-Pentanone		15 U
591-78-62-Hexanone		15 U
127-18-4Tetrachloroethene		. 15 บ
79-34-51,1,2,2-Tetrachloroethane		15 U
108-88-3Toluene	1	15 U
108-90-7Chlorobenzene	1	15 U
100-41-4Ethylbenzene		15 U
100-42-5Styrene		15 U
1330-20-7Xylene (Total)		15 U
		-
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### VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JL908	
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Lab Name: COMPUCHEM ENV. CORP.

Contract: 68D50004

Lab Code: COMPU

Case No.: 24554

SAS No.:

SDG No.: JL893

Matrix: (soil/water) SOIL

Number TICs found: 1

Lab Sample ID: 796766

Sample wt/vol:

5.0 (g/mL) g

Lab File ID: GH096766A54

Level: (low/med)

Date Received: 04/12/96

% Moisture: not dec. 33

Date Analyzed: 04/18/96

GC Column:DB624

ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Aliquot Volume: (uL)

Soil Extract Volume: (uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 2	CO2 (NOT IN TIC TOTAL)	0.83		JB K
2				
<b>4.</b>	_	-		
6.				
7.				
9.				
10.				
12.		_		
13.				
15.			ν.	
16. 17.		_		<u> </u>
18.	_	_		
20.				
21.		_		
23.			<u> </u>	
25.	_	_		
26.		_		
28.				
29.				.]
30		_		·

FORM I VOA-TIC

EPA SAMPLE NO.

JL908

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.: SDG No.: JL893

Matrix: (soil/water) SOIL

Lab Sample ID: 796766

Sample wt/vol: 30.3 (g/mL) g Lab File ID: GH096766C04

Level: (low/med) LOW

Date Received: 04/12/96

% Moisture: 33 decanted: (Y/N) Y Date Extracted: 04/17/96

Concentrated Extract Volume: 500(uL) Date Analyzed: 04/22/96

Injection Volume: 2.0(uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.3

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

CAS NO.	COMPOUND (ug/L or ug/	(Kg) ug/Kg	Q 
108-95-2	Phenol	490	- ,
	bis(2-Chloroethyl)ether	490	
	2-Chlorophenol	490	
	1,3-Dichlorobenzene	490	
	1,4-Dichlorobenzene	490	
	1,2-Dichlorobenzene	490	
	2-Methylphenol	490	
	2,2'-oxybis(1-Chloropropane)	490	•
	4-Methylphenol	490	
	N-Nitroso-di-n-propylamine	490	1
	Hexachloroethane	490	1
	Nitrobenzene	490	i
	Isophorone	490	
	2-Nitrophenol	490	-
	2,4-Dimethylphenol	490	1 1
	bis(2-Chloroethoxy)methane	490	1 1
	2,4-Dichlorophenol	490	1 1
	1,2,4-Trichlorobenzene	490	
	Naphthalene	490	1 1
	4-Chloroaniline	490	
	Hexachlorobutadiene	490	ן ט
	4-Chloro-3-methylphenol	490	1 -
91-57-6	2-Methylnaphthalene	490	1 :
77-47-4	Hexachlorocyclopentadiene	490	U
88-06-2	2,4,6-Trichlorophenol	490	1
95-95-4	2,4,5-Trichlorophenol	1200	U
	2-Chloronaphthalene	490	_
	2-Nitroaniline	1200	U
131-11-3	Dimethylphthalate	490	U
208-96-8	Acenaphthylene	490	U
	2,6-Dinitrotoluene	490	U
	3-Nitroaniline	1200	U.
	Acenaphthene	490	U
		·	·

Lab Name: COMPUCHEM ENV. CORP.

Contract: 68D50004

Lab Code: COMPU

Case No.: 24554

SAS No.:

SDG No.: JL893

Matrix: (soil/water) SOIL

Lab Sample ID: 796766

Sample wt/vol:

30.3 (q/mL) q

Lab File ID:

GH096766C04

Level:

(low/med) LOW Date Received: 04/12/96

% Moisture: 33

decanted: (Y/N) Y

Date Extracted:04/17/96

Concentrated Extract Volume:

500 (uL)

Date Analyzed: 04/22/96

Injection Volume:

2.0(uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y

86-73-7-----Fluorene

100-01-6----4-Nitroaniline

pH: 7.3

	CAS NO.	COMPOUND	(ug/L or ug/Kg) ug/		Q
	51-28-5	2,4-Dinitropheno	51	1200	U
	100-02-7			1200	U
	132-64-9	Dibenzofuran		490	U
	121-14-2	2,4-Dinitrotolue	ene	490	U
1	84-66-2	-Diethylphthalate		490	U
	7005-72-3	4-Chlorophenyl-p	henylether_	490	U

534-52-1----4,6-Dinitro-2-methylphenol 86-30-6-----N-nitrosodiphenylamine (1) 101-55-3-----4-Bromophenyl-phenylether 118-74-1-----Hexachlorobenzene 87-86-5----Pentachlorophenol 85-01-8-----Phenanthrene 120-12-7-----Anthracene 86-74-8-----Carbazole 84-74-2-----Di-n-butylphthalate 206-44-0-----Fluoranthene 129-00-0-----Pyrene

490 U 490 U 490 U 490 U 490 U 490 U 490 U 490 U

490 U

490 U

490 U

490 U

490 U 490 U

490 U

490 U

56 J

490 U

1200 U

1200 U

490 U 490 U

490 U

1200 U. 490 U

56-55-3-----Benzo (a) anthracene 218-01-9-----Chrysene

117-81-7-----bis(2-Ethylhexyl)phthalate 117-84-0-----Di-n-octylphthalate

205-99-2----Benzo (b) fluoranthene 207-08-9-----Benzo (k) fluoranthene 50-32-8-----Benzo (a) pyrene

85-68-7-----Butylbenzylphthalate

91-94-1----3,3'-Dichlorobenzidine

193-39-5-----Indeno(1,2,3-cd)pyrene 53-70-3-----Dibenzo(a,h) anthracene 191-24-2----Benzo(g,h,i)perylene

(1) - Cannot be separated from Diphenylamine

## SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

JL908

Lab Name: COMPUCHEM ENV. CORP.

Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.: SDG No.: JL893

Matrix: (soil/water) SOIL

Lab Sample ID: 796766

Sample wt/vol: 30.3 (g/mL) g

Lab File ID: GH096766C04

Level: (low/med) LOW

Date Received: 04/12/96

% Moisture: 33 decanted: (Y/N) Y

Date Extracted:04/17/96

Concentrated Extract Volume: 500(uL)

Date Analyzed: 04/22/96

Injection Volume: 2.0(uL)

Number TICs found: 3

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.3

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 2. 3.	ALDOL (BC) UNKNOWN (BC) LABORATORY ARTIFACT	4.73 5.51 11.07	21000	JAB (
5. 6. 7.				
8. 9. 10. 11. 12.				
14. 15.				
17. 18. 19. 20.				
21. 22. 23. 24.				
25. 26. 27. 28.				
29.				

FORM I SV-TIC

OLM03.0

## VOLATILE ORGANICS ANALYSIS DATA SHEET

JL909

EPA SAMPLE NO.

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50004

SDG No.: JL893

Lab Code: COMPU Case No.: 24554 SAS No.:

Matrix: (soil/water) SOIL

Lab Sample ID: 796768

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: GR096768B54

Level: (low/med) LOW

Date Received: 04/12/96

% Moisture: not dec. 51

Date Analyzed: 04/18/96

GC Column:DB624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

CAS NO.

COMPOUND

(ug/L or ug/Kg) ug/Kg

0

20 U 74-87-3-----Chloromethane 20 U 74-83-9-----Bromomethane 20 U 75-01-4-----Vinyl Chloride 75-00-3-----Chloroethane 20 U 24 B UJ 75-09-2----Methylene Chloride 13 JB UJ 67-64-1-----Acetone 75-15-0-----Carbon Disulfide 20 U 75-35-4----1,1-Dichloroethene 20 U 20 U 75-34-3----1,1-Dichloroethane 540-59-0----1,2-Dichloroethene (total) 20 U 20 U 67-66-3-----Chloroform 20 U. 107-06-2----1,2-Dichloroethane 78-93-3----2-Butanone 20 U 71-55-6-----1,1,1-Trichloroethane 20 U 56-23-5-----Carbon Tetrachloride 20 U 75-27-4-----Bromodichloromethane 20 U 78-87-5-----1,2-Dichloropropane 20 U 10061-01-5----cis-1,3-Dichloropropene 20 U 79-01-6-----Trichloroethene 20 U 124-48-1-----Dibromochloromethane 20 U 79-00-5----1,1,2-Trichloroethane 20 U 71-43-2-----Benzene 10061-02-6-----trans-1,3-Dichloropropene 20 U 20 U 75-25-2----Bromoform 20 U 20 U 108-10-1----4-Methyl-2-Pentanone 591-78-6----2-Hexanone 20 U 127-18-4----Tetrachloroethene 20 U 79-34-5-----1,1,2,2-Tetrachloroethane 20 U 20 U 108-88-3-----Toluene 108-90-7-----Chlorobenzene 20 U 100-41-4-----Ethylbenzene 20 U 100-42-5----Styrene____ 20 U 1330-20-7-----Xylene (Total) 20 U

VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COME

EPA	SWALTE	NO.

POUNDS	JL909
act: 68D50004	

Lab Name: COMPUCHEM ENV. CORP.

Contra

Lab Code: COMPU Case No.: 24554 SAS No.:

SDG No.: JL893

Matrix: (soil/water) SOIL

Lab Sample ID: 796768

Sample wt/vol:

5.0 (g/mL) g

Lab File ID: GR096768B54

Level: (low/med) LOW

Date Received: 04/12/96

% Moisture: not dec. 51

Number TICs found: 1

Date Analyzed: 04/18/96

GC Column:DB624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 2	CO2 (NOT IN TIC TOTAL)	0.82	154	JD K
3			A CONTRACTOR CONTRACTOR (CONTRACTOR)	
4.			- 127 (A) - 4 (A) (A)	ļ
5				
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O				
9. 10.				
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13.			**************************************	
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17. 18	-		<del></del>	
L9.				
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5 TE .				
25. 26.				·
4/.				
28.				
29. 30.		-}		

## SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

JL909

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.:

SDG No.: JL893

Matrix: (soil/water) SOIL

Lab Sample ID: 796768

Sample wt/vol: 30.5 (g/mL) g

Lab File ID: GH096768C04

Date Received: 04/12/96

Level: (low/med) LOW

% Moisture: 44

decanted: (Y/N) Y

Date Extracted: 04/17/96

Concentrated Extract Volume:

500 (uL)

Date Analyzed: 04/22/96

Injection Volume: 2.0(uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.0

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg CAS NO. COMPOUND

Crab No.	(-5,		<del>-</del>
108-95-2	Phenol	580	บ
111-44-4	bis(2-Chloroethyl)ether	580	
95-57-8	2-Chlorophenol	580	
541-73-1	1,3-Dichlorobenzene	580	1
106-46-7	1,4-Dichlorobenzene	580	
95-50-1	1,2-Dichlorobenzene	580	
	2-Methylphenol	580	
108-60-1	2,2'-oxybis(1-Chloropropane)		
		580	<b>ט</b>
621-64-7	4-Methylphenol N-Nitroso-di-n-propylamine	580	
67-72-1	Hexachloroethane	580	
98-95-3	Nitrobenzene	580	
78-59-1	Isophorone	580	
88-75-5	2-Nitrophenol	580	
105-67-9	2,4-Dimethylphenol	580	U
111-91-1	bis (2-Chloroethoxy) methane	580	Ū
	2,4-Dichlorophenol	580	U
	1,2,4-Trichlorobenzene	580	ט
91-20-3	Naphthalene	580	Ū
106-47-8	4-Chloroaniline	580	UJ
87-68-3	Hexachlorobutadiene	580	U.
59-50-7	4-Chloro-3-methylphenol	580	Ū
91-57-6	2-Methylnaphthalene	580	U.
77-47-4	Hexachlorocyclopentadiene	580	U
88-06-2	2,4,6-Trichlorophenol	580	U
95-95-4	2,4,5-Trichlorophenol	1400	
91-58-7	2-Chloronaphthalene	580	
88-74-4	2-Nitroaniline	1400	
131-11-3	Dimethylphthalate	580	U
208-96-8	Acenaphthylene	580	U
606-20-2	2,6-Dinitrotoluene	580	U
99-09-2	3-Nitroaniline	1400	U
83-32-9	Acenaphthene	580	,

## SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JL909

Lab Name: COMPUCHEM ENV. CORP.

Contract: 68D50004

Lab Code: COMPU

Case No.: 24554 SAS No.:

SDG No.: JL893

Matrix: (soil/water) SOIL

Lab Sample ID: 796768

Sample wt/vol:

30.5 (q/mL) g

Lab File ID: GH096768C04

Date Received: 04/12/96

Level: (low/med) LOW

% Moisture: 44

decanted: (Y/N) Y

Date Extracted: 04/17/96

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 04/22/96

Injection Volume: 2.0(uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.0

CONCENTRATION UNITS:

CAS NO.

COMPOUND

(ug/L or ug/Kg) ug/Kg

51-28-5	2,4-Dinitrophenol	1400	U
100-02-7	4-Nitrophenol	1400	
	Dibenzofuran	580	
121-14-2	2,4-Dinitrotoluene	580	U
84-66-2	Diethylphthalate	580	
7005-72-3	4-Chlorophenyl-phenylether_	580	,
86-73-7	Fluorene	580	
	4-Nitroaniline	1400	U
	4,6-Dinitro-2-methylphenol	1400	1 -
	N-nitrosodiphenylamine_(1)	580	1
101-55-3	4-Bromophenyl-phenylether	580	
	Hexachlorobenzene	580	1
	Pentachlorophenol	1400	W
	Phenanthrene	580	1
	Anthracene	580	
	Carbazole	580	ſ
	Di-n-butylphthalate	580	E .
	Fluoranthene	580	1
129-00-0		580	U
85-68-7	Butylbenzylphthalate	580	
91-94-1	3,3'-Dichlorobenzidine	580	•
56-55-3	Benzo(a) anthracene	580	
218-01-9	Chrysene	580	U
117-81-7	bis(2-Ethylhexyl)phthalate	71	1
117-84-0	Di-n-octylphthalate	580	U
205-99-2 <b></b> -	Benzo(b) fluoranthene	580	1
207-08-9	Benzo(k)fluoranthene	580	1
50-32-8	Benzo(a)pyrene	580	
193-39-5	Indeno(1,2,3-cd)pyrene	580	
53-70-3	Dibenzo(a,h)anthracene	580	U
191-24-2	Benzo(g,h,i)perylene	580	U

FORM I SV-2

## SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JL909

Lab Name: COMPUCHEM ENV. CORP.

Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.:

SDG No.: JL893

Matrix: (soil/water) SOIL

Lab Sample ID: 796768

Sample wt/vol:

30.5 (g/mL) g

Lab File ID: GH096768C04

Level: (low/med) LOW

Date Received: 04/12/96

% Moisture: 44 decanted: (Y/N) Y Date Extracted:04/17/96

Concentrated Extract Volume: 500 (uL) Date Analyzed: 04/22/96

Injection Volume: 2.0(uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.0

Number TICs found: 11

CONCENTRATION UNITS: (uq/L or ug/Kg) ug/Kg

PL OLMO3.0

# VOLATILE ORGANICS ANALYSIS DATA SHEET

JL910

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50004

Lab Code: COMPU

Case No.: 24554 SAS No.: SDG No.: JL893

Matrix: (soil/water) SOIL

Lab Sample ID: 796769

Sample wt/vol:

5.0 (g/mL) g

Lab File ID: GH096769A54

Level: (low/med) LOW

Date Received: 04/12/96

% Moisture: not dec. 59

CAS NO.

Date Analyzed: 04/18/96

GC Column:DB624

ID: 0.53 (mm)

COMPOUND

Dilution Factor: 1.0

Soil Aliquot Volume: (uL)

Soil Extract Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

1	74-87-3	Chloromethane		24	บ	
1	74-83-9			24	Ū	
١		Vinyl Chloride		24		
1	75-00-3		<i>'</i>	24		
1		-Methylene Chloride			B	uj
	67-64-1				Æ	
		-Carbon Disulfide	: :		Ū	٠,٥
ļ		-1,1-Dichloroethene			Ū	
l		-1,1-Dichloroethane		24		
1		-1,2-Dichloroethene (total)		24		
1	67-66-3			24		
۱		-1,2-Dichloroethane		24		
	78-93-3		1	24		
1		-1,1,1-Trichloroethane		24		
1		Carbon Tetrachloride		24	,	
1		-Bromodichloromethane		24		
1		-1,2-Dichloropropane		24	ľ	
ł	10061-01-5	-cis-1,3-Dichloropropene		24	_	
1	79-01-6	-Trichloroethene		24		
1		Dibromochloromethane		24	1 -	
		-1,1,2-Trichloroethane		24	1	
ļ	71-43-2			24		
		-trans-1,3-Dichloropropene		24		
1	75-25-2	-Bromoform		24	•	
Ì	108-10-1	-4-Methyl-2-Pentanone	}	24		
	591-78-6	-2-Hexanone		24		-
١		Tetrachloroethene		24	í	
1		-1,1,2,2-Tetrachloroethane		24	1 '	
	108-88-3	Toluene	}	24	1	
l		Chlorobenzene		24		
	100-41-4	Ethylbenzene		24	,	
١	100-42-5	Styrene		24	1	
1		Xylene (Total)	}	24		-
1		•	<b>\</b> .	_		
•		<del></del>	·		. ——	

### VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA	SAMPLE	NO.

Lab Name: COMPUCHEM ENV. CORP.

Contract: 68D50004

JL910	

Lab Code: COMPU Case No.: 24554 SAS No.:

SDG No.: JL893

Matrix: (soil/water) SOIL

Lab Sample ID: 796769

Sample wt/vol: 5.0 (g/mL) g

Lab File ID:

GH096769A54

Level: (low/med) LOW

Date Received: 04/12/96

% Moisture: not dec. 59

Date Analyzed: 04/18/96

GC Column:DB624

ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Aliquot Volume: ____

(uL)

Soil Extract Volume: (uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) ug/Kg Number TICs found: 1

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 2	CO2 (NOT IN TIC TOTAL)	0.86	97	JB R
2. 3. 4.				
5.				
7				
9				
11.				
13				
16.				
17. 18.				
20.				
22.				
23 24.				
25 26.				
28.				
29. 30.		<b>-</b>		

OLM03.0

## SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

JL910

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50004

CONCENTRATION UNITS:

Lab Code: COMPU Case No.: 24554 SAS No.: SDG No.: JL893

Matrix: (soil/water) SOIL

Lab Sample ID: 796769

Sample wt/vol: 30.5 (g/mL) g

Lab File ID: GH096769B04

Level: (low/med) LOW

Date Received: 04/12/96

% Moisture: 54 decanted: (Y/N) Y Date Extracted:04/17/96

Concentrated Extract Volume: 500(uL) Date Analyzed: 04/20/96

Injection Volume: 2.0(uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.8

108-95-2I	ois(2-Chloroethyl		700	
1 111 - 44 - 4	ois(2-Chloroethyl		. , , , , ,	ְּט
TTT-##-#	. ~1.717	) ether	700	
95-57-82	2-Culorophenol		700	
541-73-1			700	
106-46-7			700	
95-50-1	1,2-Dichlorobenze	ene .	700	
95-48-72	2-Methylphenol		700	ט
108-60-12	$2,2'$ -oxybis $(1-\overline{Chl})$	oropropane)	700	ט
106-44-5	1-Methylphenol		700	U
621-64-7N	N-Nitroso-di-n-pr	copylamine	700	U
67-72-1I	Hexachloroethane		700	ט
98-95-3	Nitrobenzene -		700	ט ו
78-59-1			700	U
88-75-52	2-Nitrophenol		700	ט
105-67-92	2.4-Dimethylpheno	01	700	ט
111-91-1	ois (2-Chloroethox	v) methane	700	ן טן
120-83-22			700	U
120-82-1			700	
91-20-3			700	
106-47-8			700	עט ו
87-68-3I		ene	700	
59-50-7			700	
91-57-62	2-Methylnaphthale	ene	700	
77-47-4	Hexachlorocyclope	entadiene	700	
88-06-22	2.4.6-Trichloroph	nenol	700	
95-95-42	2.4.5-Trichloroph	enol	1800	
91-58-72	2-Chloronaphthale	ne	700	1 1
88-74-4	2-Nitroaniline		1800	
131-11-3	Dimethylphthalate	<u></u>	700	
208-96-87	Acenaphthylene		700	
606-20-22	2.6-Dinitrotoluer	ne	700	
99-09-2	3-Nitroaniline	~	1800	
83-32-9			700	
1		<del></del>	700	

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.:

SDG No.: JL893

Matrix: (soil/water) SOIL

Lab Sample ID: 796769

Sample wt/vol: 30.5 (g/mL) g

Lab File ID:

CONCENTRATION UNITS:

GH096769B04

Level: (low/med) LOW

Date Received: 04/12/96

decanted: (Y/N) Y

Date Extracted:04/17/96

Concentrated Extract Volume:

500 (址)

Date Analyzed: 04/20/96

Injection Volume: 2.0(uL)

% Moisture: 54

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.8

	CAS NO.	COMPOUND	(ug/L or ug/		Q
	51-28-5	2,4-Dinitropho	enol	1800	
		4-Nitrophenol	<u> </u>	1800	
		Dibenzofuran_		700	
	121-14-2	2,4-Dinitroto	luene	700	
	84-66-2	Diethylphthal	ate	700	
	7005-72-3	4-Chloropheny	l-phenylether	700	
1		Fluorene		700	
		4-Nitroanilin		1800	
- 1		4,6-Dinitro-2		1800	
	86-30-6	N-nitrosodiph	enylamine (1)	700	
	101-55-3	4-Bromophenyl	-phenylether	700	ן ט
ļ	118-74-1	Hexachloroben	zene	700	ן טן
.	87-86-5	Pentachloroph	enol	1800	ן ש
1	85-01-8	Phenanthrene		700	ן טן
		Anthracene		700	ט
١		Carbazole		700	ן טן
- 1		Di-n-butylpht	nalate	700	
ı	206-44-0	Fluoranthene		700	
.	129-00-0	Pyrene		700	
1	85-68-7	Butylbenzylph	halate	700	
Ì	91-94-1	3,3'-Dichloro	penzidine	700	
ł	56-55-3	Benzo (a) anthr	acene	700	
		Chrysene		700	1 1
J	117-81-7	bis(2-Ethylhe	ryl) phthalate	700	
ı	117-84-0	Di-n-octylpht	nalate	700	
ı	205-99-2	Benzo (b) fluor	entheno	700	
	203-33-2	Benzo(k) fluor	anthene	700	
	207-00-3	Benzo(a) pyren	anchene		
ļ	102_20-	Indeno(1,2,3-	2 <u></u>	700	
1	173-37-3	Diboneo (1, 2, 3-	co/byrene	700	
	101 24 2	Dibenzo (a, h) a	nciiracene	700	
	<b>エ</b> ガエー <b>2</b> 4ー <b>2</b> ーーー	Benzo(g,h,i)p	erAreue	700	10
( -	T - Cannot h	e separated from D	inhanulanina		اـــــا.
( 4	., - camioc b	e separated from D	rbuenArquine	•	/

SDG No.: JL893

Lab Code: COMPU Case No.: 24554 SAS No.:

### SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

JL910 Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50004

Lab Sample ID: 796769 Matrix: (soil/water) SOIL

30.5 (g/mL) g Lab File ID: GH096769B04 Sample wt/vol:

Date Received: 04/12/96 Level: (low/med) LOW

% Moisture: 54 decanted: (Y/N) Y Date Extracted: 04/17/96

Concentrated Extract Volume: 500 (uL) Date Analyzed: 04/20/96

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.8

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg Number TICs found: 2

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 2.	ALDOL (BC) UNKNOWN (BC)	4.75	17000	JAB (
3. 4.				
5. 6.				
7. 8.				
9. 10.				
11. 12.				
13. 14. 15.				
16. 17.				
18.				
20				
22.				
25.				
27.				
29				
30				

FORM I SV-TIC

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.: SDG No.: JL893

Matrix: (soil/water) SOIL

Lab Sample ID: 796771

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: GH096771A54

Level: (low/med) LOW

Date Received: 04/12/96

% Moisture: not dec. 53

Date Analyzed: 04/18/96

GC Column:DB624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: ____(uL)

## CONCENTRATION UNITS:

CAS NO.	COMPOUND	(ug/L or ug/Kg) ug/Kg	Q

		<u> </u>	
74-87-3Chloromethane	21	ט	
74-83-9Bromomethane	21	υ	
75-01-4Vinyl Chloride	21	ט ו	
75-00-3Chloroethane	21	U	
75-09-2Methylene Chloride	20	JE UJ	
67-64-1Acetone	. 11	JB UJ	
75-15-0Carbon Disulfide	21	ט ען	
75-35-41,1-Dichloroethene	21	_	
75-34-31,1-Dichloroethane	21		
540-59-01,2-Dichloroethene (total)	21		
67-66-3Chloroform	21		
107-06-21,2-Dichloroethane	21		
	21		
78-93-32-Butanone		-	
71-55-61,1,1-Trichloroethane	21		
56-23-5Carbon Tetrachloride	21		
75-27-4Bromodichloromethane	21		i
78-87-51,2-Dichloropropane	21		İ
10061-01-5cis-1,3-Dichloropropene	21		İ
79-01-6Trichloroethene	21		l
124-48-1Dibromochloromethane	21		
79-00-51,1,2-Trichloroethane	21		
71-43-2Benzene	21	U	l
10061-02-6trans-1,3-Dichloropropene	21	U	l
75-25-2Bromoform	21	U	
108-10-14-Methyl-2-Pentanone	21	U	İ
591-78-62-Hexanone	21	ט -	l
127-18-4Tetrachloroethene	21	lυ	
79-34-51,1,2,2-Tetrachloroethane	21	1 -	
108-88-3Toluene	21	1	
108-90-7Chlorobenzene	21	(	l
100-41-4Ethylbenzene	21	_	
100-42-5Styrene	21		1
		1	
1330-20-7Xylene (Total)	21	10	
		1	ر ا

### VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED

EPA SAMPLE NO.

COMPOUNT	) <b>5</b> ,	JL911
ntract:	68D50004	

Lab Name: COMPUCHEM ENV. CORP.

Lab Code: COMPU Case No.: 24554 SAS No.: SDG No.: JL893

Matrix: (soil/water) SOIL

% Moisture: not dec. 53

Lab Sample ID: 796771

Sample wt/vol:

5.0 (g/mL) g

Lab File ID: GH096771A54

Level: (low/med) LOW

Date Received: 04/12/96

Date Analyzed: 04/18/96

GC Column:DB624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: ____(uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg Number TICs found: 1

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1.	CO2 (NOT IN TIC TOTAL)	0.84	215	JB R
2				
3				
5				
0.		i		
7		[		ļ
9.		<del></del>		
10				
11.				<b> </b>
12.				<u> </u>
14.				
15.				]
16.				}
17. 18.	<del></del>			
1.7 ·				-
20.				<u> </u>
21.		1		\ <del></del>
23.				
24.				\
25				
26. 27.				
20.				
29		}		
30				\ <del></del>

FORM I VOA-TIC

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.: SDG No.: JL893

Matrix: (soil/water) SOIL

Lab Sample ID: 796771

Sample wt/vol: 30.3 (g/mL) g

Lab File ID: GH096771B04

Level: (low/med) LOW

Date Received: 04/12/96

% Moisture: 47 decanted: (Y/N) Y

COMPOUND

Date Extracted: 04/17/96

Concentrated Extract Volume: 500 (uL)

CAS NO.

Date Analyzed: 04/20/96

Injection Volume: 2.0(uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.9

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

98-95-3Nitrobenzene 620 U			
111-44-4	108-95-2Phenol	620	U
95-57-82-Chlorophenol 620 U 541-73-11,3-Dichlorobenzene 620 U 106-46-71,4-Dichlorobenzene 620 U 95-50-11,2-Dichlorobenzene 620 U 95-48-72-Methylphenol 620 U 108-60-12,2'-oxybis(1-Chloropropane) 620 U 106-44-54-Methylphenol 620 U 621-64-7N-Nitroso-di-n-propylamine 620 U 67-72-1Hexachloroethane 620 U 98-95-3Nitrobenzene 620 U 98-95-3Nitrophenol 620 U 105-67-92,4-Dimethylphenol 620 U 111-91-1bis(2-Chloroethoxy)methane 620 U 120-82-11,2,4-Trichlorobenzene 620 U 120-82-11,2,4-Trichlorobenzene 620 U 91-20-3Naphthalene 620 U 106-47-84-Chloroaniline 620 U 91-57-62-Methylnaphthalene 620 U 91-57-62-Methylnaphthalene 620 U 91-57-62-Methylnaphthalene 620 U 91-57-62-Methylnaphthalene 620 U 91-58-72-Methylnaphthalene 620 U 91-58-72-A-Chloronaphthalene 620 U 91-58-72-A-Chloronaphthalene 620 U 91-58-72-A-Chloronaphthalene 620 U 91-58-72-A-Chloronaphthalene 620 U 91-58-72-Chloronaphthalene 620 U 91-58-7	111-44-4bis(2-Chloroethyl)ether	620	Ū
541-73-11,3-Dichlorobenzene       620 U         106-46-71,4-Dichlorobenzene       620 U         95-50-11,2-Dichlorobenzene       620 U         95-48-72-Methylphenol       620 U         108-60-12,2'-oxybis (1-Chloropropane)       620 U         106-44-54-Methylphenol       620 U         621-64-7N-Nitroso-di-n-propylamine       620 U         67-72-1Hexachloroethane       620 U         98-95-3Nitrobenzene       620 U         78-59-1	95-57-82-Chlorophenol	620	ָ ט
106-46-7	541-73-11.3-Dichlorobenzene	620	ט
95-50-1		620	U
95-48-72-Methylphenol 620 U 108-60-12,2'-oxybis(1-Chloropropane) 620 U 106-44-54-Methylphenol 620 U 621-64-7Nnitroso-di-n-propylamine 620 U 98-95-3Nitrobenzene 620 U 98-95-3Isophorone 620 U 88-75-52-Nitrophenol 620 U 105-67-92,4-Dimethylphenol 620 U 111-91-1bis(2-Chloroethoxy)methane 620 U 120-83-22,4-Dichlorophenol 620 U 120-82-11,2,4-Trichlorobenzene 620 U 91-20-3Naphthalene 620 U 106-47-84-Chloroaniline 620 U 97-50-74-Chloro-3-methylphenol 620 U 91-57-62-Methylnaphthalene 620 U 88-06-22,4,5-Trichlorophenol 620 U 95-95-42,4,5-Trichlorophenol 620 U 91-58-72-Chloronaphthalene 620 U 88-74-42-Nitroaniline 620 U 91-1-3	95-50-11,2-Dichlorobenzene	620	U
108-60-12,2'-oxybis (1-Chloropropane)       620 U         106-44-54-Methylphenol       620 U         621-64-7Nitroso-di-n-propylamine       620 U         67-72-1Hexachloroethane       620 U         98-95-3Nitrobenzene       620 U         78-59-1Isophorone       620 U         88-75-52-Nitrophenol       620 U         105-67-92,4-Dimethylphenol       620 U         111-91-1bis (2-Chloroethoxy) methane       620 U         120-83-22,4-Dichlorophenol       620 U         120-82-11,2,4-Trichlorobenzene       620 U         91-20-3Naphthalene       620 U         106-47-8		620	Ū
106-44-54-Methylphenol       620 U         621-64-7N-Nitroso-di-n-propylamine       620 U         67-72-1Hexachloroethane       620 U         98-95-3Nitrobenzene       620 U         78-59-1Isophorone       620 U         88-75-52-Nitrophenol       620 U         105-67-92,4-Dimethylphenol       620 U         111-91-1bis (2-Chloroethoxy) methane       620 U         120-83-22,4-Dichlorophenol       620 U         120-82-11,2,4-Trichlorobenzene       620 U         91-20-3Naphthalene       620 U         106-47-8		620	U
621-64-7N-Nitroso-di-n-propylamine 620 U 67-72-1	106-44-54-Methylphenol	620	U
67-72-1	621-64-7N-Nitroso-di-n-propylamine	620	U
78-59-1	67-72-1Hexachloroethane	620	ט
88-75-52-Nitrophenol       620 U         105-67-92,4-Dimethylphenol       620 U         111-91-1bis (2-Chloroethoxy) methane       620 U         120-83-22,4-Dichlorophenol       620 U         120-82-11,2,4-Trichlorobenzene       620 U         91-20-3Naphthalene       620 U         106-47-8	98-95-3Nitrobenzene	620	U
105-67-92,4-Dimethylphenol       620 U         111-91-1bis(2-Chloroethoxy)methane       620 U         120-83-22,4-Dichlorophenol       620 U         120-82-11,2,4-Trichlorobenzene       620 U         91-20-3Naphthalene       620 U         106-47-8	78-59-1Isophorone	620	U
105-67-92,4-Dimethylphenol       620 U         111-91-1bis(2-Chloroethoxy)methane       620 U         120-83-22,4-Dichlorophenol       620 U         120-82-11,2,4-Trichlorobenzene       620 U         91-20-3Naphthalene       620 U         106-47-8	88-75-52-Nitrophenol	620	U
111-91-1	105-67-92,4-Dimethylphenol	620	ט
120-82-11,2,4-Trichlorobenzene       620 U         91-20-3Naphthalene       620 U         106-47-84-Chloroaniline       620 U         87-68-3Hexachlorobutadiene       620 U         59-50-74-Chloro-3-methylphenol       620 U         91-57-6	111-91-1bis(2-Chloroethoxy) methane	620	U
91-20-3Naphthalene       620 U         106-47-84-Chloroaniline       620 U         87-68-3Hexachlorobutadiene       620 U         59-50-74-Chloro-3-methylphenol       620 U         91-57-62-Methylnaphthalene       620 U         77-47-4Hexachlorocyclopentadiene       620 U         88-06-22,4,6-Trichlorophenol       620 U         95-95-42,4,5-Trichlorophenol       1600 U         91-58-72-Chloronaphthalene       620 U         88-74-42-Nitroaniline       1600 U         131-11-3Dimethylphthalate       620 U         208-96-8Acenaphthylene       620 U         606-20-23-Nitroaniline       1600 U	120-83-22,4-Dichlorophenol	620	U .
106-47-84-Chloroaniline       620 U         87-68-3Hexachlorobutadiene       620 U         59-50-74-Chloro-3-methylphenol       620 U         91-57-62-Methylnaphthalene       620 U         77-47-4Hexachlorocyclopentadiene       620 U         88-06-22,4,6-Trichlorophenol       620 U         95-95-42,4,5-Trichlorophenol       1600 U         91-58-72-Chloronaphthalene       620 U         88-74-4Dimethylphthalate       620 U         131-11-3Dimethylphthalate       620 U         208-96-8Acenaphthylene       620 U         606-20-23-Nitroaniline       1600 U	120-82-11,2,4-Trichlorobenzene	620	ט
87-68-3		620	ט
59-50-74-Chloro-3-methylphenol       620 U         91-57-62-Methylnaphthalene       620 U         77-47-4Hexachlorocyclopentadiene       620 U         88-06-22,4,6-Trichlorophenol       620 U         95-95-42,4,5-Trichlorophenol       1600 U         91-58-72-Chloronaphthalene       620 U         88-74-42-Nitroaniline       1600 U         131-11-3Dimethylphthalate       620 U         208-96-8Acenaphthylene       620 U         606-20-22,6-Dinitrotoluene       620 U         99-09-23-Nitroaniline       1600 U		620	נט
91-57-62-Methylnaphthalene       620 U         77-47-4Hexachlorocyclopentadiene       620 U         88-06-22,4,6-Trichlorophenol       620 U         95-95-42,4,5-Trichlorophenol       1600 U         91-58-72-Chloronaphthalene       620 U         88-74-42-Nitroaniline       1600 U         131-11-3Dimethylphthalate       620 U         208-96-8Acenaphthylene       620 U         606-20-23-Nitroaniline       1600 U	87-68-3Hexachlorobutadiene	620	U
77-47-4Hexachlorocyclopentadiene       620 U         88-06-22,4,6-Trichlorophenol       620 U         95-95-42,4,5-Trichlorophenol       1600 U         91-58-72-Chloronaphthalene       620 U         88-74-42-Nitroaniline       1600 U         131-11-3Dimethylphthalate       620 U         208-96-8Acenaphthylene       620 U         606-20-22,6-Dinitrotoluene       620 U         99-09-23-Nitroaniline       1600 U	59-50-74-Chloro-3-methylphenol	. 620	U
77-47-4Hexachlorocyclopentadiene       620 U         88-06-22,4,6-Trichlorophenol       620 U         95-95-42,4,5-Trichlorophenol       1600 U         91-58-72-Chloronaphthalene       620 U         88-74-42-Nitroaniline       1600 U         131-11-3Dimethylphthalate       620 U         208-96-8Acenaphthylene       620 U         606-20-22,6-Dinitrotoluene       620 U         99-09-23-Nitroaniline       1600 U	91-57-62-Methylnaphthalene	620	U
88-06-22,4,6-Trichlorophenol       620 U         95-95-42,4,5-Trichlorophenol       1600 U         91-58-72-Chloronaphthalene       620 U         88-74-42-Nitroaniline       1600 U         131-11-3Dimethylphthalate       620 U         208-96-8Acenaphthylene       620 U         606-20-22,6-Dinitrotoluene       620 U         99-09-23-Nitroaniline       1600 U	77-47-4Hexachlorocyclopentadiene	620	U ·
95-95-42,4,5-Trichlorophenol       1600 U         91-58-72-Chloronaphthalene       620 U         88-74-42-Nitroaniline       1600 U         131-11-3Dimethylphthalate       620 U         208-96-8Acenaphthylene       620 U         606-20-22,6-Dinitrotoluene       620 U         99-09-23-Nitroaniline       1600 U	88-06-22,4,6-Trichlorophenol	620	U
88-74-42-Nitroaniline       1600 U         131-11-3Dimethylphthalate       620 U         208-96-8Acenaphthylene       620 U         606-20-22,6-Dinitrotoluene       620 U         99-09-23-Nitroaniline       1600 U	95-95-42,4,5-Trichlorophenol	1600	U
131-11-3Dimethylphthalate       620 U         208-96-8Acenaphthylene       620 U         606-20-22,6-Dinitrotoluene       620 U         99-09-23-Nitroaniline       1600 U	91-58-72-Chloronaphthalene	620	U
208-96-8Acenaphthylene 620 U 606-20-22,6-Dinitrotoluene 620 U 99-09-23-Nitroaniline 1600 U		1600	U
208-96-8Acenaphthylene 620 U 606-20-22,6-Dinitrotoluene 620 U 99-09-23-Nitroaniline 1600 U	131-11-3Dimethylphthalate	620	ש
99-09-23-Nitroaniline 1600 U	208-96-8Acenaphthylene	620	שן
99-09-23-Nitroaniline 1600 U 83-32-9Acenaphthene 620 U	606-20-22,6-Dinitrotoluene	620	U
83-32-9Acenaphthene 620 U	99-09-23-Nitroaniline	1600	U
	83-32-9Acenaphthene	620	U
	- · · · · · · · · · · · · · · · · · · ·		

## SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

JL911

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.: SDG No.: JL893

Matrix: (soil/water) SOIL

Lab Sample ID: 796771

Sample wt/vol: 30.3 (g/mL) g Lab File ID: GH096771B04

Level: (low/med) LOW

Date Received: 04/12/96

% Moisture: 47 decanted: (Y/N) Y Date Extracted:04/17/96

Concentrated Extract Volume: 500(uL) Date Analyzed: 04/20/96

Injection Volume: 2.0(uL)

Dilution Factor: 1.0

CONCENTRATION UNITS:

GPC Cleanup: (Y/N) Y pH: 6.9

CAS NO.	COMPOUND (ug/L or	ug/Kg)	ug/Kg	Q
51-28-5	2,4-Dinitrophenol		1600	Ü
	4-Nitrophenol		1600	U
132-64-9	Dibenzofuran		620	<b>D</b> arse
121-14-2	2,4-Dinitrotoluene		620	U
84-66-2	Diethylphthalate		620	U
7005-72-3	4-Chlorophenyl-phenylether		620	U
86-73-7	Fluorene		620	U
100-01-6	4-Nitroaniline		1600	U
534-52-1	4,6-Dinitro-2-methylphenol		1600	U
86-30-6	N-nitrosodiphenylamine (1)		620	U
	4-Bromophenyl-phenylether	_	620	U
	Hexachlorobenzene		620	U
	Pentachlorophenol	<del></del>	1600	ไซป
	Phenanthrene	_	620	U
	Anthracene		620	U
86-74-8	Carbazole	_	620	U
	Di-n-butylphthalate		620	U
	Fluoranthene		620	Ū
129-00-0			620	U
85-68-7	Butylbenzylphthalate		620	טו
91-94-1	3,3'-Dichlorobenzidine		620	ט
	Benzo (a) anthracene		620	ט
	Chrysene	_	620	1
	bis(2-Ethylhexyl)phthalate	<u>-</u> -	620	l .
117-84-0	Di-n-octylphthalate	<b></b>	620	1
205-99-2	Benzo (b) fluoranthene		620	1
207-08-9	Benzo(k) fluoranthene		620	1
	Benzo (a) pyrene		620	_
193-39-5	Indeno(1,2,3-cd)pyrene		620	
53-70-3	Dibenzo(a,h)anthracene		620	
191-24-2	Benzo(g,h,i)perylene		620	1
	201110 (3) 11/ 1/ PCI y telle		020	1
) - Cannot be	e separated from Diphenylamine	1		.

## SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

JL911

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.:

SDG No.: JL893

Matrix: (soil/water) SOIL

Lab Sample ID: 796771

Sample wt/vol: 30.3 (g/mL) g

Lab File ID: GH096771B04

Level: (low/med) LOW

Date Received: 04/12/96

% Moisture: 47 decanted: (Y/N) Y

Date Extracted:04/17/96

Concentrated Extract Volume:

500 (սԼ)

Date Analyzed: 04/20/96

Injection Volume: 2.0(uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.9

Number TICs found: 6

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	
1. 2. 3. 4. 5. 6.	ALDOL (BC) UNKNOWN (BC) LABORATORY ARTIFACT UNKNOWN ALCOHOL UNKNOWN UNKNOWN	4.75 5.55 11.12 16.52 18.04 18.86	18000 740 160 350	JAB L JR JN
8. 9. 10. 11. 12.				
13. 14. 15. 16.				
19. 20. 21.				
23. 24. 25. 26.				
28. 29. 30.				

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#### 1A VOLATILE ORGANICS ANALYSIS DATA SHEET

JL913

0

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50004

COMPOUND

CAS NO.

108-88-3-----Toluene

100-42-5----Styrene

108-90-7-----Chlorobenzene

100-41-4-----Ethylbenzene

1330-20-7-----Xylene (Total)

Lab Code: COMPU Case No.: 24554 SAS No.: SDG No.: JL893

Matrix: (soil/water) SOIL Lab Sample ID: 796341

Sample wt/vol: 5.0 (g/mL) g Lab File ID: GH096341A54

Level: (low/med) LOW Date Received: 04/11/96

% Moisture: not dec. 58 Date Analyzed: 04/18/96

GC Column:DB624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: (uL) Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

24 U 74-87-3-----Chloromethane 74-83-9-----Bromomethane 24 U 24 U 75-01-4-----Vinyl Chloride 75-00-3-----Chloroethane 24 U 19 0B UJ 75-09-2-----Methylene Chloride 9 JB UJ 67-64-1-----Acetone 75-15-0-----Carbon Disulfide 24 U 75-35-4-----1,1-Dichloroethene 24 U 24 U 75-34-3-----1,1-Dichloroethane 540-59-0-----1,2-Dichloroethene (total)_ 24 U 67-66-3-----Chloroform 24 107-06-2----1,2-Dichloroethane 24 U 78-93-3----2-Butanone 24 U 24 U 71-55-6-----1,1,1-Trichloroethane 56-23-5-----Carbon Tetrachloride 24 U 24 U 75-27-4-----Bromodichloromethane 24 U 78-87-5----1,2-Dichloropropane 24 U 10061-01-5----cis-1,3-Dichloropropene 79-01-6-----Trichloroethene 24 U 124-48-1-----Dibromochloromethane 24 U 79-00-5-----1,1,2-Trichloroethane 24 U 71-43-2-----Benzene 24 U 10061-02-6----trans-1,3-Dichloropropene 24 U 75-25-2-----Bromoform 24 U 108-10-1----4-Methyl-2-Pentanone 24 U 591-78-6----2-Hexanone 24 U 127-18-4-----Tetrachloroethene 24 U 79-34-5----1,1,2,2-Tetrachloroethane 24 U

24 U

24 U

24 U

24 U

24 U

### VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

JL913 Contract: 68D50004

Lab	Name:	COMPUCHEM	ENV.	CORP.
-----	-------	-----------	------	-------

Lab Code: COMPU Case No.: 24554 SAS No.:

SDG No.: JL893

Matrix: (soil/water) SOIL

% Moisture: not dec. 58

Number TICs found: 2

Lab Sample ID: 796341

Sample wt/vol: 5.0 (g/mL) g

Lab File ID:

GH096341A54

Date Received: 04/11/96

Level: (low/med) LOW

Date Analyzed: 04/18/96

GC Column:DB624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Aliquot Volume: (uL)

Soil Extract Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	, Q
1. 2.	CO2 (NOT IN TIC TOTAL) LABORATORY ARTIFACT	0.86	150 20	
3				
5. 6.				
7. 8. 9.				
LO.				
2.				
.3. 				
.5. .6. .7.		_		
L8				
20				
22				
24.				
26 27.				
28 29				
30				

FORM I VOA-TIC

1 OLM03.0

## SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

JL913

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.: SDG No.: JL893

Matrix: (soil/water) SOIL

Lab Sample ID: 796341

Sample wt/vol: 30.2 (g/mL) g

Lab File ID: GH096341B04

Level: (low/med) LOW

Date Received: 04/11/96

% Moisture: 53 decanted: (Y/N) Y

Date Extracted:04/17/96

Concentrated Extract Volume: 500 (uL) Date Analyzed: 04/20/96

Injection Volume: 2.0(uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 7.4

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

CAS NO.	COMPOUND (ug/L or ug/	/Kg) ug/Kg 	Q 
108-95-2		700	
	bis(2-Chloroethyl)ether	700	
	2-Chlorophenol	700	1 1
	1,3-Dichlorobenzene	700	
106-46-7	1,4-Dichlorobenzene	700	1 1 2
	1,2-Dichlorobenzene	700	•
	2-Methylphenol	700	
108-60-1	2,2'-oxybis(1-Chloropropane)	700	
106-44-5	4-Methylphenol	700	, - ,
621-64-7	N-Nitroso-di-n-propylamine	700	
	Hexachloroethane	700	
	Nitrobenzene	700	1
78-59-1	Isophorone	700	<b>ט</b>
88-75-5	2-Nitrophenol	700	1 - 1
	2,4-Dimethylphenol	700	U
111-91-1	bis(2-Chloroethoxy) methane	700	U
120-83-2	2,4-Dichlorophenol	700	U
120-82-1	1,2,4-Trichlorobenzene	700	U
91-20-3	Naphthalene	700	U
	4-Chloroaniline	700	$ \omega $
87-68-3	Hexachlorobutadiene	700	U
59-50-7	4-Chloro-3-methylphenol	700	U
91-57-6	2-Methylnaphthalene	700	U
77-47-4	Hexachlorocyclopentadiene	700	שׁ
88-06-2	2,4,6-Trichlorophenol	700	U
95-95-4	2,4,5-Trichlorophenol	1800	U
91-58-7	2-Chloronaphthalene	700	U
88-74-4	2-Nitroaniline	1800	U
131-11-3	Dimethylphthalate	700	U
208-96-8	Acenaphthylene	700	U
606-20-2	2,6-Dinitrotoluene	700	
99-09-2	3-Nitroaniline	1800	4
83-32-9	Acenaphthene	700	1
<del></del>	<del></del>	1	<i>~</i>

OLMO3.0

SDG No.: JL893

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.:

Matrix: (soil/water) SOIL Lab Sample ID: 796341

Sample wt/vol: 30.2 (g/mL) g Lab File ID: GH096341B04

Level: (low/med) LOW Date Received: 04/11/96

% Moisture: 53 decanted: (Y/N) Y Date Extracted: 04/17/96

Concentrated Extract Volume: 500 (uL) Date Analyzed: 04/20/96

Injection Volume: 2.0(uL) Dilution Factor: 1.0

injection volume: 2.0 (dd)

GPC Cleanup: (Y/N) Y pH: 7.4

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) ug/Kg Q

51-28-52,4-Dinitrophenol	1800	_
100-02-74-Nitrophenol	1800	Ū
132-64-9Dibenzofuran	700	1 -
121-14-22,4-Dinitrotoluene	700	U
84-66-2Diethylphthalate	700	U
7005-72-34-Chlorophenyl-phen	ylether 700	1
86-73-7Fluorene	700	U
100-01-64-Nitroaniline	1800	U
534-52-14,6-Dinitro-2-methy	lphenol 1800	U
86-30-6N-nitrosodiphenylam		U
101-55-34-Bromophenyl-pheny	lether 700	ַ
118-74-1Hexachlorobenzene	700	U
87-86-5Pentachlorophenol	1800	UJ
85-01-8Phenanthrene	700	U
120-12-7Anthracene	700	Ū
86-74-8Carbazole	700	U
84-74-2Di-n-butylphthalate	700	U
206-44-0Fluoranthene	700	U
129-00-0Pyrene	700	U ·
85-68-7Butylbenzylphthalat	e 700	U
91-94-13,3'-Dichlorobenzid	line 700	U
56-55-3Benzo(a) anthracene	700	U
218-01-9Chrysene -	700	U
117-81-7bis(2-Ethylhexyl)ph	thalate 72	J
117-84-0Di-n-octylphthalate	700	U
205-99-2Benzo(b) fluoranthen	ie 700	U
207-08-9Benzo(k) fluoranthen	ne 700	U
50-32-8Benzo(a)pyrene	700	U ·
193-39-5Indeno (1,2,3-cd) pyr	rene 700	U
53-70-3Dibenzo (a, h) anthrac	ene 700	U
191-24-2Benzo(g,h,i)perylen	ne 700	U

## SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

JL913

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.: SDG No.: JL893

Matrix: (soil/water) SOIL

Lab Sample ID: 796341

Sample wt/vol: 30.2 (g/mL) g

Lab File ID: GH096341B04

Level: (low/med) LOW

Date Received: 04/11/96

% Moisture: 53 decanted: (Y/N) Y

Date Extracted:04/17/96

Concentrated Extract Volume:

500 (uL)

Date Analyzed: 04/20/96

Injection Volume: 2.0(uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y

pH: 7.4

Number TICs found: 5

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	~ ;
1. 2. 3. 4. 5.	ALDOL (BC) UNKNOWN (BC) LABORATORY ARTIFACT LABORATORY ARTIFACT UNKNOWN	4.76 5.55 11.12 15.84 17.89	29000	JAB (
6. 7. 8. 9.				
11. 12. 13.				
15. 16. 17. 18.				
20. 21. 22. 23.				
25. 26. 27. 28. 29.				
30				

FORM I SV-TIC

OLM03.0

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.: SDG No.: JL893

Matrix: (soil/water) SOIL

Lab Sample ID: 796773

Sample wt/vol: 5.0 (g/mL) g

Lab File ID: GH096773A54

Level: (low/med) LOW

Date Received: 04/12/96

% Moisture: not dec. 59

Date Analyzed: 04/18/96

GC Column:DB624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

CAS NO. COMPOUND

(ug/L or ug/Kg) ug/Kg

	<del></del>	i
74-87-3Chloromethane	24	υ
74-83-9Bromomethane	24	U
75-01-4Vinyl Chloride	24	ט
75-00-3Chloroethane	24	U I
75-09-2Methylene Chloride		JB W
67-64-1Acetone		IB UJ
75-15-0Carbon Disulfide	. 24	
75-35-41,1-Dichloroethene	24	
75-34-31,1-Dichloroethane	24	
540-59-01,2-Dichloroethene (total)	. 24	
67-66-3Chloroform	24	
107-06-21,2-Dichloroethane	24	_
78-93-32-Butanone	24	- 1
71-55-61,1,1-Trichloroethane	24	1 -
	24	1
56-23-5Carbon Tetrachloride		
75-27-4Bromodichloromethane	24	1
78-87-51,2-Dichloropropane	24	1
10061-01-5cis-1,3-Dichloropropene	24	1 -
79-01-6Trichloroethene	. 24	
124-48-1Dibromochloromethane	24	1 -
79-00-51,1,2-Trichloroethane	24	-
71-43-2Benzene	24	1 -
10061-02-6trans-1,3-Dichloropropene	24	U
75-25-2Bromoform	24	U
108-10-14-Methyl-2-Pentanone	24	U
591-78-62-Hexanone	24	U `
127-18-4Tetrachloroethene	24	U
79-34-51,1,2,2-Tetrachloroethane	24	ט
108-88-3Toluene	24	U
108-90-7Chlorobenzene	.l = = = = = = = = = = = = = = = = = = =	Ū
100-41-4Ethylbenzene	,	Ŭ
100-42-5Styrene	.	Ü
1330-20-7Xylene (Total)	.1	Ü
Ayrene (Total)	-	١
	. I	

### VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

1		١,
	JL914	l

EPA SAMPLE NO.

Lab Name: COMPUCHEM ENV. Co	ORP.	
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Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.:

SDG No.: JL893

Matrix: (soil/water) SOIL

Lab Sample ID: 796773

Sample wt/vol:

5.0 (g/mL) g

Lab File ID: GH096773A54

Level: (low/med) LOW

Date Received: 04/12/96

% Moisture: not dec. 59

Date Analyzed: 04/18/96

GC Column:DB624 ID: 0.53 (mm)

Number TICs found: 1

Dilution Factor: 1.0

Soil Aliquot Volume: ____ (uL)

Soil Extract Volume:____(uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 2. 3.	CO2 (NOT IN TIC TOTAL)	0.86		JB R.
5. 6. 7.				
8. 9. 10.				
12. 13. 14.				
16. 17. 18.				
21. 22. 23.				
24. 25. 26. 27.				
28. 29. 30.				

FORM I VOA-TIC

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.: SDG No.: JL893

Matrix: (soil/water) SOIL

Lab Sample ID: 796773

Sample wt/vol: 30.4 (g/mL) g

Lab File ID: GH096773B04

Level: (low/med) LOW

Date Received: 04/12/96

% Moisture: 59 decanted: (Y/N) Y Date Extracted:04/17/96

Concentrated Extract Volume: 500 (uL) Date Analyzed: 04/20/96

Injection Volume: 2.0(uL)

Dilution Factor: 1.0

CONCENTRATION UNITS:

GPC Cleanup: (Y/N) Y pH: 6.8

CAS NO.		ug/L or ug/		Q
108-95-2			790	•
	bis(2-Chloroethyl)	ether	790	
	2-Chlorophenol		790	
	1,3-Dichlorobenzen		790	
	1,4-Dichlorobenzen		· 790	•
	1,2-Dichlorobenzen	e	790	
	2-Methylphenol		790	
	$2,2'$ -oxybis $(1-\overline{\text{Chlc}})$	ropropane)	790	
	4-Methylphenol	ر	790	
621-64-7	N-Nitroso-di-n-pro	pylamine	790	
	Hexachloroethane		790	
98-95-3	Nitrobenzene		790	U
	Isophorone		790	ט
88-75-5	2-Nitrophenol		790	U .
105-67-9	2,4-Dimethylphenol		790	ט
	bis(2-Chloroethoxy		790	U
120-83-2	2,4-Dichlorophenol		790	ប
120-82-1	1,2,4-Trichlorober	zene	790	U
	Naphthalene		790	U
	4-Chloroaniline		790	w l
87-68-3	Hexachlorobutadier	ie	790	U
59-50-7	4-Chloro-3-methylr	henol	790	ן טן
	2-Methylnaphthaler		790	ט ו
77-47-4	Hexachlorocycloper	tadiene	790	ט ו
88-06-2	2,4,6-Trichlorophe	enol	790	
95-95-4	2,4,5-Trichlorophe	enol	2000	
	2-Chloronaphthaler		790	, ,
	2-Nitroaniline		2000	1 1
	Dimethylphthalate		790	
208-96-8	Acenaphthylene	· · · · · · · · · · · · · · · · · · ·	790	1 1
606-20-2	2,6-Dinitrotoluene	<del> </del>	790	
99-09-2	3-Nitroaniline		2000	
	Acenaphthene		790	
			, , , ,	
·				1

FORM I SV-1

## SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JL914

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.:

SDG No.: JL893

Matrix: (soil/water) SOIL

Lab Sample ID: 796773

Sample wt/vol:

30.4 (g/mL) g

Lab File ID: GH096773B04

Level: (low/med)

LOW

Date Received: 04/12/96

% Moisture: 59 decanted: (Y/N) Y

Date Extracted: 04/17/96

Concentrated Extract Volume: 500 (uL) Date Analyzed: 04/20/96

Injection Volume:

CAS NO.

2.0(uL)

COMPOUND

Dilution Factor: 1.0

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

GPC Cleanup: (Y/N) Y pH: 6.8

			,
51-28-5	2,4-Dinitrophenol	2000	U
	4-Nitrophenol	2000	U
	Dibenzofuran	790	U
121-14-2	2,4-Dinitrotoluene	790	U
	Diethylphthalate	790	U
	4-Chlorophenyl-phenylether_	790	U
	Fluorene	790	U
100-01-6	4-Nitroaniline	2000	U
534-52-1	4,6-Dinitro-2-methylphenol	2000	U
	N-nitrosodiphenylamine (1)	790	U
	4-Bromophenyl-phenylether	790	U
118-74-1	Hexachlorobenzene	790	U
	Pentachlorophenol	2000	lw
	Phenanthrene	790	שׁ
	Anthracene	790	U
	Carbazole	790	U
	Di-n-butylphthalate	790	lυ
	Fluoranthene	790	U
129-00-0		790	U
85-68-7	Butylbenzylphthalate	790	U
	3,3'-Dichlorobenzidine	790	ט
	Benzo (a) anthracene	790	U
	Chrysene	790	ט
	bis(2-Ethylhexyl)phthalate	100	J
117-84-0	Di-n-octylphthalate	790	U
205-99-2	Benzo (b) fluoranthene	790	U
207-08-9	Benzo(k) fluoranthene	790	U
50-32-8	Benzo (a) pyrene	790	1
193-39-5	Indeno(1,2,3-cd)pyrene	790	1 -
53-70-3	Dibenzo (a, h) anthracene	790	
191-24-2	Benzo(g,h,i)perylene	790	1
		.}	1

(1) - Cannot be separated from Diphenylamine

## SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

JL914

Lab Name: COMPUCHEM ENV. CORP.

Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.:

SDG No.: JL893

Matrix: (soil/water) SOIL

Lab Sample ID: 796773

Sample wt/vol: 30.4 (g/mL) g

Lab File ID:

GH096773B04

Level: (low/med) LOW Date Received: 04/12/96

% Moisture: 59

decanted: (Y/N) Y

Date Extracted: 04/17/96

Concentrated Extract Volume:

500 (uL)

Date Analyzed: 04/20/96

Injection Volume: 2.0(uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y

pH: 6.8

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

Number TICs found: 9

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 2. 3. 4. 5. 6. 7. 8. 9.	ALDOL (BC) UNKNOWN (BC) LABORATORY ARTIFACT UNKNOWN UNKNOWN UNKNOWN UNKNOWN UNKNOWN ALCOHOL UNKNOWN UNKNOWN	4.77 5.56 11.12 12.86 14.21 15.02 16.49 18.82 18.85	29000 1400 300 280 220 330 610 230	# R R J J J J J J J J J J J J J
10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20.				
21. 22. 23. 24. 25. 26. 27. 28. 29. 30.				

### 1A VOLATILE ORGANICS ANALYSIS DATA SHEET

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.: SDG No.: JL893

Matrix: (soil/water) SOIL Lab Sample ID: 796775

Sample wt/vol: 5.0 (g/mL) g Lab File ID: GH096775A54

Level: (low/med) LOW Date Received: 04/12/96

% Moisture: not dec. 48 Date Analyzed: 04/18/96

GC Column: DB624 ID: 0.53 (mm) Dilution Factor: 1.0

Soil Extract Volume: ____(uL) Soil Aliquot Volume: ____(uL)

CONCENTRATION UNITS:

CAS NO. COMPOUND (ug/L or ug/Kg) ug/Kg Q

19 U 74-87-3-----Chloromethane 74-83-9-----Bromomethane 19 U 19 U 75-01-4-----Vinyl Chloride 19 U. 75-00-3-----Chloroethane 25 B UJ 75-09-2----Methylene Chloride 67-64-1----Acetone 10 JB 4J 75-15-0-----Carbon Disulfide 19 U 19 U 75-35-4----1,1-Dichloroethene 19 U 75-34-3----1,1-Dichloroethane 19 U 540-59-0----1,2-Dichloroethene (total) 19 U 67-66-3-----Chloroform 19 U 107-06-2----1,2-Dichloroethane 19 U 78-93-3----2-Butanone 19 U 71-55-6----1,1,1-Trichloroethane 19 U 56-23-5-----Carbon Tetrachloride 19 U 75-27-4-----Bromodichloromethane 19 U 78-87-5----1,2-Dichloropropane 10061-01-5----cis-1,3-Dichloropropene 19 U 19 U 79-01-6-----Trichloroethene 124-48-1-----Dibromochloromethane 19 U 79-00-5-----1,1,2-Trichloroethane_ 19 U 71-43-2----Benzene 19 U 10061-02-6----trans-1,3-Dichloropropene 19 U 75-25-2----Bromoform 19 U 108-10-1----4-Methyl-2-Pentanone 19 U 591-78-6----2-Hexanone 19 U 127-18-4----Tetrachloroethene 19 U 79-34-5----1,1,2,2-Tetrachloroethane 19 U 108-88-3-----Toluene 19 U 108-90-7-----Chlorobenzene 19 U 100-41-4-----Ethylbenzene 19 U 100-42-5-----Styrene 19 U 1330-20-7-----Xylene (Total) 19 U

0 0 0 5 4 OLMO3.0

### 1E

## VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JL915	
-------	--

Lab Name: COMPUCHEM ENV. CORP.

Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.:

SDG No.: JL893

Matrix: (soil/water) SOIL

Number TICs found: 1

Lab Sample ID: 796775

Sample wt/vol:

5.0 (g/mL) g

Lab File ID: GH096775A54

Level: (low/med) LOW Date Received: 04/12/96

Date Analyzed: 04/18/96

% Moisture: not dec. 48

Dilution Factor: 1.0

GC Column:DB624

ID: 0.53 (mm)

Soil Aliquot Volume: (uL)

Soil Extract Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

1. CO2 (NOT IN TIC TOTAL)  2	CONC.	
8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25.		ж R
12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24.		
16. 17. 18. 19. 20. 21. 22. 23. 24.		
21. 22. 23. 24.		
26.		
27. 28. 29.		

## SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

JL915

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.: SDG No.: JL893

Matrix: (soil/water) SOIL

Sample wt/vol; 30.2 (g/mL) g

Lab File ID: GH096775C04

Date Received: 04/12/96

Level: (low/med) LOW

% Moisture: 33 decanted: (Y/N) Y Date Extracted:04/17/96

Concentrated Extract Volume: 500(uL) Date Analyzed: 04/22/96

Lab Sample ID: 796775

Injection Volume: 2.0(uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y pH: 6.7

## SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

JL915

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.:

SDG No.: JL893

Matrix: (soil/water) SOIL

Lab Sample ID: 796775

Sample wt/vol: 30.2 (g/mL) g Lab File ID: GH096775C04

CONCENTRATION UNITS:

Level: (low/med) LOW

Date Received: 04/12/96

% Moisture: 33 decanted: (Y/N) Y

Date Extracted:04/17/96

Concentrated Extract Volume: 500(uL)

Date Analyzed: 04/22/96

Injection Volume: 2.0(uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) Y

pH: 6.7

CAS NO.	COMPOUND	(ug/L or	ug/Kg)	ug/Kg	Q
51-28-5	2,4-Dinitropl	nenol		1200	n .
	4-Nitropheno		<b>─</b>	1200	
	Dibenzofuran			490	
	2,4-Dinitrot	oluene		490	_
	Diethylphtha			490	U
	4-Chlorophen		-	490	U
	Fluorene		_	490	บ
100-01-6	4-Nitroanili	ne		1200	U
	4,6-Dinitro-			1200	
	N-nitrosodipl			490	
	4-Bromopheny			490	Ū
	Hexachlorobe			490	
	Pentachlorop			1200	
	Phenanthrene			490	U
	Anthracene	<u> </u>	<del>-</del>	490	U
86-74-8	Carbazole	· · · · · · · · · · · · · · · · · · ·		490	י ט
84-74-2	Di-n-butylph	thalate		490	ט
	Fluoranthene			490	υ
129-00-0			_	490	ט
	Butylbenzylp	nthalate		490	υ .
	3,3 [?] -Dichlor			490	ט
56-55-3	Benzo (a) anth	racene		490	טו
	Chrysene			490	
	bis(2-Ethylh	exvl) phthalate		56	1
117-84-0	Di-n-octylph	thalate		.490	1
205-99-2	Benzo (b) fluo	ranthene		490	1
207-08-9	Benzo(k)fluo	ranthene	<del></del>	490	1 -
50-32-8	Benzo (a) pyre	ne		490	-
193-39-5	Indeno(1,2,3	-cd) pyrene		490	I .
53-70-3	Dibenzo(a,h)	anthracene		490	
191-24-2	Benzo(g,h,i)	pervlene			1
	===== (3,-=,-,				1

FORM I SV-2

## SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

JL915

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.:

SDG No.: JL893

Matrix: (soil/water) SOIL

Lab Sample ID: 796775

Sample wt/vol: 30.2 (g/mL) g

Lab File ID:

GH096775C04

Level:

Date Received: 04/12/96

(low/med) LOW

% Moisture: 33 decanted: (Y/N) Y

Date Extracted:04/17/96

Concentrated Extract Volume: 500 (uL)

Date Analyzed: 04/22/96

Injection Volume: 2.0(uL)

Dilution Factor: 1.0

GPC Cleanup:

(Y/N) Y

pH: 6.7

Number TICs found: 15

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/Kg

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14.	ALDOL (BC) UNKNOWN (BC) UNKNOWN UNKNOWN UNKNOWN AMINE LABORATORY ARTIFACT UNKNOWN CARBOXYLIC ACID UNKNOWN UNKNOWN UNKNOWN UNKNOWN UNKNOWN UNKNOWN UNKNOWN UNKNOWN UNKNOWN UNKNOWN	4.73 5.51 5.66 6.16 6.43 11.07 12.08 13.32 13.78 13.81 13.87 14.15 16.40 24.47 24.51	24000 1200 110 160 130 150 240 110 480 230 730 160 150	10000000000000000000000000000000000000

FORM I SV-TIC

## VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JL916

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50004

Lab Code: COMPU

Case No.: 24554 SAS No.:

SDG No.: JL916

Matrix: (soil/water) WATER

Lab Sample ID: 796342

Sample wt/vol:

5.0 (g/mL) mL

Lab File ID: CN096342B56

Level: (low/med)

LOW

Date Received: 04/11/96

% Moisture: not dec.

CAS NO.

Date Analyzed: 04/17/96

GC Column:DB624

ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Aliquot Volume: (uL)

Soil Extract Volume: ____(uL)

CONCENTRATION UNITS:

COMPOUND (ug/L or ug/Kg) ug/L

•	•		
	Ghl amanthana	10	U
	Chloromethane		1 -
	Bromomethane	1	Ü
	Vinyl Chloride		n,
	Chloroethane		07 W
	Methylene Chloride	1	JIB U
67-64-1		j	ធ្លា
	Carbon Disulfide		ū
	1,1-Dichloroethene		Ū
	1,1-Dichloroethane		שׁ
	1,2-Dichloroethene (total)		U
	Chloroform		J
	1,2-Dichloroethane		U
	2-Butanone		ឃ
	1,1,1-Trichloroethane		U
56-23-5	Carbon Tetrachloride	,	ַט
	Bromodichloromethane	· 10	ַּט
	1,2-Dichloropropane		ט
10061-01-5	cis-1,3-Dichloropropene	10	U
	Trichloroethene	10	U
124-48-1	Dibromochloromethane	10	ט
79-00-5	1,1,2-Trichloroethane	10	U
71-43-2	Benzene	10	שו
10061-02-6	trans-1,3-Dichloropropene	10	טוי
75-25-2		10	Ū
108-10-1	4-Methyl-2-Pentanone	10	עטוו
	2-Hexanone	10	บับ
	Tetrachloroethene	. 1	ט ו ט
	1,1,2,2-Tetrachloroethane	.	טוס
108-88-3			บ
	Chlorobenzene	.	טוט
	Ethylbenzene	. [	บ
100-42-5			טוט
	Xylene (Total)	. i	טוט

FORM I VOA

1E

## VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA	SAMPLE	NO.
	JL916	ř.

Lab Name: COMPUCHEM	ENV. CORP.	Contract: 68D50004	
Lab Code: COMPU	Case No.: 24554	SAS No.: SDG N	No.: JL916
Matrix: (soil/water)	WATER	Lab Sample ID:	796342
Sample wt/vol:	5.0 (g/mL) mL	Lab File ID:	CN096342B56
Level: (low/med)	LOW	Date Received:	04/11/96
% Moisture: not dec.		Date Analyzed:	04/17/96
GC Column:DB624	ID: 0.53 (mm)	Dilution Factor	c: 1.0

Soil Extract Volume: (uL)

Number TICs found: 0

Soil Aliquot Volume: ____(uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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3				
4.				7.7
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1 27.				
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FORM I VOA-TIC

OLMO3.0

# 1B SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JL916

Lab Name: CompuChem Env. Corp. Contract: 68D50004 Lab Code: COMPU Case No.: 24554 SAS No.: SDG No.: JL916

Lab Sample ID: 796342 Matrix: (soil/water) WATER

Sample wt/vol: 1000 (g/mL) mL Lab File ID: GH096342C02

Level: (low/med) LOW Date Received: 04/11/96

% Moisture: _____ decanted: (Y/N)___ Date Extracted:04/16/96

Concentrated Extract Volume: 1000(uL) Date Analyzed: 04/18/96

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ____

CAS NO.	COMPOUND	(ug/L or ug/Kg) ug/L	Q

108-95-2Phenol	10	U
111-44-4bis(2-Chloroethyl)ether	10	U
95-57-82-Chlorophenol	10	Ū
541-73-11,3-Dichlorobenzene	10	U ·
106-46-71,4-Dichlorobenzene	10	
95-50-11,2-Dichlorobenzene	10	
95-48-72-Methylphenol	10	_
108-60-12,2'-oxybis(1-Chloropropane)	10	_
106-44-54-Methylphenol	10	-
621-64-7N-Nitroso-di-n-propylamine	10	
67-72-1Hexachloroethane	10	
98-95-3Nitrobenzene	10	_
78-59-1Isophorone	10	-
88-75-52-Nitrophenol	10	-
105-67-92,4-Dimethylphenol	10	1
111-91-1bis (2-Chloroethoxy) methane	10	, –
120-83-22,4-Dichlorophenol	10	_
120-82-11,2,4-Trichlorobenzene	10	_
91-20-3Naphthalene		-
106-47-84-Chloroaniline	10	
87-68-3Hexachlorobutadiene	10	1
59-50-74-Chloro-3-methylphenol	10	
S1 57 C 2 Mathelmonth 2 methylphenol	10	1 -
91-57-62-Methylnaphthalene	10	1 -
77-47-4Hexachlorocyclopentadiene	10	1 -
88-06-22,4,6-Trichlorophenol	10	-
95-95-42,4,5-Trichlorophenol	25	
91-58-72-Chloronaphthalene	10	
88-74-42-Nitroaniline	25	1 -
131-11-3Dimethylphthalate	10	
208-96-8Acenaphthylene	10	_
606-20-22,6-Dinitrotoluene	10	-
99-09-23-Nitroaniline	25	U
83-32-9Acenaphthene	10	Ū

FORM I SV-1

# 1C SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JL916

Lab Name: CompuChem Env. Corp. Contract: 68D50004

Lab Code: COMPU

Case No.: 24554 SAS No.:

SDG No.: JL916

Matrix: (soil/water) WATER

Lab Sample ID: 796342

Sample wt/vol: 1000 (g/mL) mL

Lab File ID: GH096342C02

Level: (low/med) LOW

Date Received: 04/11/96

% Moisture: _____ decanted: (Y/N)___

Date Extracted:04/16/96

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 04/18/96

Injection Volume: 2.0(uL)

CAS NO.

COMPOUND

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH:

CONCENTRATION	UNITS:
(ug/L or ug/K	a) ua/L

	2,4-Dinitrophenol		25 UJ
	4-Nitrophenol		25 U
	Dibenzofuran	. I	10 U
	2,4-Dinitrotoluene		10 U
	Diethylphthalate	,	1 J
7005-72-3	4-Chlorophenyl-phenylether	1	10 U
	Fluorene		10 0
	4-Nitroaniline	}	25 U
	4,6-Dinitro-2-methylphenol		25 U
	N-nitrosodiphenylamine (1)	} · · ·	10 U
101-55-3	4-Bromophenyl-phenylether	1	10 U
118-74-1	Hexachlorobenzene	` <b> </b>	10 U
87-86-5	Pentachlorophenol	` <b>}</b>	25 U
85-01-8	Phenanthrene	`]	10 U
120-12-7	Anthracene		10 0
86-74-8	Carbazole		10 U
84-74-2	Di-n-butylphthalate		10 U
206-44-0	Fluoranthene		10 U
129-00-0	Pyrene	`l	10 U
85-68-7	Butylbenzylphthalate	·[	10 U
91-94-1	3,3'-Dichlorobenzidine	1	10 U
	Benzo (a) anthracene	1	10 U
218-01-9	Chrysene	1	10 U
117-81-7	bis(2-Ethylhexyl)phthalate		10 U
117-84-0	Di-n-octylphthalate	1	10 0
205-99-2	Benzo (b) fluoranthene	1	10 U
207-08-9	Benzo(k)fluoranthene	1	10 U
50-32-8	Benzo(a)pyrene	-	10 U
193-39-5	Indeno (1,2,3-cd) pyrene	-	10 0
53-70-3	Dibenzo (a, h) anthracene	-	10 U
191-24-2	Benzo(g,h,i)perylene	•}	10 0
• . • = =		-}	

FORM I SV-2

EPA SAMPLE NO.

### SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

ED COMPONE			JL916	
Contract:	68D50004	-		

Lab Name: CompuChem Env. Corp.

Lab Code: COMPU Case No.: 24554 SAS No.: SDG No.: JL916

Matrix: (soil/water) WATER

Lab Sample ID: 796342

Sample wt/vol: 1000 (g/mL) mL

Lab File ID: GH096342C02

Level: (low/med)

LOW

Date Received: 04/11/96

% Moisture: decanted: (Y/N)___

Date Extracted:04/16/96

Concentrated Extract Volume: 1000(uL)

Date Analyzed: 04/18/96

Injection Volume:

2.0 (uL)

Dilution Factor: 1.0

GPC Cleanup: (Y/N) N

pH: ____

Number TICs found: 6

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
1. 2. 3. 4. 5. 6.	UNKNOWN ALCOHOL UNKNOWN UNKNOWN ALCOHOL LABORATORY ARTIFACT UNKNOWN CARBOXYLIC ACID UNKNOWN SUBSTITUTED PROPANOI	6.33 6.44 7.21 9.45 10.77	20 3 3 5	J
8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18.				
19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29.				

## VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JL917

Lab Name: COMPUCHEM ENV. CORP.

Contract: 68D50004

Case No.: 24554 SAS No.: Lab Code: COMPU

SDG No.: JL916

Matrix: (soil/water) WATER

Lab Sample ID: 796776

Sample wt/vol:

5.0 (g/mL) mL

Lab File ID: CN096776B56

Level: (low/med)

LOW

Date Received: 04/12/96

% Moisture: not dec.

Date Analyzed: 04/17/96

GC Column: DB624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: ____(uL)

CONCENTRATION UNITS:

(ug/L or ug/Kg) ug/L CAS NO. COMPOUND

			<del></del>	
74-87-3	Chloromethane		10 0	
	Bromomethane		10 0	
	Vinyl Chloride		10 U	
1	Chloroethane	4.0	10 U	. ۾ د
,	Methylene Chloride		8 7	
67-64-1			10 U	J
1	Carbon Disulfide		10 U	
75-35-4	1,1-Dichloroethene		10 0	
	1,1-Dichloroethane		10 0	
	1,2-Dichloroethene (total)		10 U	
67-66-3			2 J	
	1,2-Dichloroethane		10 0	
78-93-3		•	10 U.	J
	1,1,1-Trichloroethane	1.0	10 0	
	Carbon Tetrachloride		10 U	
75-27-4	Bromodichloromethane		10 U	
78-87-5	1,2-Dichloropropane		10 U	
10061-01-5	cis-1,3-Dichloropropene		10 U	
79-01-6	Trichloroethene		10 U	
124-48-1	Dibromochloromethane		10 U	
79-00-5	1,1,2-Trichloroethane		10 U	
71-43-2	Benzene		10 U	
10061-02-6	trans-1,3-Dichloropropene		10 U	
75-25-2			10 0	
108-10-1	4-Methyl-2-Pentanone	}	10 0	ز
591-78-6	2-Hexanone	}	10 U	J
127-18-4	Tetrachloroethene	1	10 U	
79-34-5	1,1,2,2-Tetrachloroethane		10 U	
108-88-3			10 U	
108-90-7	Chlorobenzene		10 U	
100-41-4	Ethylbenzene	1	10 U	
100-42-5			10 U	
	Xylene (Total)	1	10 U	
l				

FORM I VOA

### VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA SAMPLE NO.

JL917	
01017	

Lab Name: COMPUCHEM ENV. CORP.

Contract: 68D50004

Lab Code: COMPU

Case No.: 24554 SAS No.: SDG No.: JL916

Matrix: (soil/water) WATER

Lab Sample ID: 796776

Sample wt/vol: 5.0 (g/mL) mL

Lab File ID: CN096776B56

Level: (low/med) LOW

Date Received: 04/12/96

% Moisture: not dec.

Date Analyzed: 04/17/96

GC Column:DB624

ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Aliquot Volume: ____(uL)

Soil Extract Volume: (uL)

Number TICs found: 0

CONCENTRATION UNITS:

(ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	· Q
1				
2		-		
3.				-
4				
5				
6	·			
7.				
8.	· · · · · · · · · · · · · · · · · · ·			
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FORM I VOA-TIC

OLM03.0

16

## SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

Lab Name: CompuChem Env. Corp. Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.: SDG No.: JL916

Matrix: (soil/water) WATER Lab Sample ID: 796776

Sample wt/vol: 1000 (g/mL) mL Lab File ID: GH096776C02

Level: (low/med) LOW Date Received: 04/12/96

% Moisture: _____ decanted: (Y/N) ___ Date Extracted:04/16/96

Concentrated Extract Volume: 1000(uL) Date Analyzed: 04/18/96

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ____

CAS NO. COMPOUND CONCENTRATION UNITS:
(ug/L or ug/Kg) ug/L Q

108-95-2Phenol	10	ט
111-44-4bis(2-Chloroethyl)ether	10	ט 🌉
95-57-82-Chlorophenol	10	
541-73-11,3-Dichlorobenzene	10	U
106-46-71,4-Dichlorobenzene	10	<b>ט</b>
95-50-11,2-Dichlorobenzene	10	บ
95-48-72-Methylphenol	10	ប
108-60-12,2'-oxybis(1-Chloropropane)	10	U
106-44-54-Methylphenol	10	U
621-64-7N-Nitroso-di-n-propylamine	10	U
67-72-1Hexachloroethane	10	<b>ט</b> ו
98-95-3Nitrobenzene	10	U
78-59-1Isophorone	10	U
88-75-52-Nitrophenol	10	U
105-67-92,4-Dimethylphenol	10	U
111-91-1bis(2-Chloroethoxy) methane	10	U
120-83-22,4-Dichlorophenol	10	U
120-82-11,2,4-Trichlorobenzene	10	U
91-20-3Naphthalene	10	Ū
106-47-84-Chloroaniline	10	Ū
87-68-3Hexachlorobutadiene	10	U
59-50-74-Chloro-3-methylphenol	10	U
91-57-62-Methylnaphthalene	10	Ū
77-47-4Hexachlorocyclopentadiene	10	ט
88-06-22,4,6-Trichlorophenol	10	U
95-95-42,4,5-Trichlorophenol	25	บ
91-58-72-Chloronaphthalene	10	υ
88-74-42-Nitroaniline	25	Ū
131-11-3Dimethylphthalate	10	U
208-96-8Acenaphthylene	10	ט
606-20-22,6-Dinitrotoluene	10	יי
99-09-23-Nitroaniline	25	ט
83-32-9Acenaphthene	10	ł
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FORM I SV-1

OLM03.0

26

## SEMIVOLATILE ORGANICS ANALYSIS DATA SHEET

JL917

CONCENTRATION UNITS:

Lab Name: CompuChem Env. Corp. Contract: 68D50004

SDG No.: JL916 Case No.: 24554 SAS No.: Lab Code: COMPU

Matrix: (soil/water) WATER Lab Sample ID: 796776

Lab File ID: GH096776C02 Sample wt/vol: 1000 (g/mL) mL

Date Received: 04/12/96 Level: (low/med) LOW

% Moisture: decanted: (Y/N)___ Date Extracted:04/16/96

Concentrated Extract Volume: 1000 (uL) Date Analyzed: 04/18/96

Dilution Factor: 1.0 2.0(uL) Injection Volume:

GPC Cleanup: (Y/N) N pH: _

> CAS NO. COMPOUND (ug/L or ug/Kg) ug/L

·			
51-28-5	2,4-Dinitrophenol	25	шí
100-02-7	4-Nitrophenol	25	
	Dibenzofuran	10	_
	2,4-Dinitrotoluene	10	
	Diethylphthalate	10	
	4-Chlorophenyl-phenylether	10	_
	Fluorene	10	_
	4-Nitroaniline	25	_
	4,6-Dinitro-2-methylphenol	25	
	N-nitrosodiphenylamine (1)	10	
	4-Bromophenyl-phenylether	10.	•
			_
	Hexachlorobenzene	10	_
	Pentachlorophenol	25:	
	Phenanthrene	. 10	_
,	Anthracene	10	1
	Carbazole	10	1
	Di-n-butylphthalate	10	-
206-44-0	Fluoranthene	10	U
129-00-0		10	U
85-68-7	Butylbenzylphthalate	10	U
91-94-1	3,3'-Dichlorobenzidine	10	U.
56-55-3	Benzo(a) anthracene	10	U
	Chrysene	10	U
	bis(2-Ethylhexyl)phthalate	10	U
117-84-0	Di-n-octylphthalate	10	-
205-99-2	Benzo (b) fluoranthene	10	1 -
207-08-9	Benzo(k) fluoranthene		U
50-32-8	Benzo(a) pyrene		ט
193-39-5	Indeno (1,2,3-cd) pyrene		υ
53-70-3	Dibenzo(a,h)anthracene	l'	טו
191-24-2	Benzo(g,h,i)perylene		1 -
T3T-74-7	Benzo(g, n, 1) perytene	10	ال
		l	· I

(i) - Cannot be separated from Diphenylamine

### 1F

EPA SAMPLE NO.

SEMIVOLATILE	ORGANICS	ANALYSIS	DATA	SHEET
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TENTATIVELY IDENTIFIED COMPOUNDS

JL917

Lab Name: CompuChem Env. Corp. Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.: SDG No.: JL916
Matrix: (soil/water) WATER Lab Sample ID: 796776

Sample wt/vol: 1000 (g/mL) mL Lab File ID: GH096776C02

Level: (low/med) LOW Date Received: 04/12/96

% Moisture: _____ decanted: (Y/N)___ Date Extracted:04/16/96

Concentrated Extract Volume: 1000(uL) Date Analyzed: 04/18/96

Injection Volume: 2.0(uL) Dilution Factor: 1.0

GPC Cleanup: (Y/N) N pH: ____

CONCENTRATION UNITS: Number TICs found: 0 (ug/L or ug/Kg) ug/L

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CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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FORM I SV-TIC

## VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JL918

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50004

Lab Code: COMPU

Case No.: 24554 SAS No.:

5.0 (g/mL) mL

SDG No.: JL916

Matrix: (soil/water) WATER

Lab File ID: CN096349B56

Sample wt/vol:

LOW

Date Received: 04/11/96

Level: (low/med) % Moisture: not dec.

Date Analyzed: 04/17/96

Lab Sample ID: 796349

GC Column:DB624

ID: 0.53 (mm)

COMPOUND

Dilution Factor: 1.0

Soil Extract Volume: (uL)

CAS NO.

Soil Aliquot Volume:

__ (uL)

## CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

74-87-3	Chloromethane	1	o U	
	Bromomethane		οU	
	Vinyl Chloride		οŪ	
	Chloroethane		OUU	
75-09-2	Methylene Chloride	] "	8 25	U
67-64-1		1	งไพ	
75-15-0	Carbon Disulfide	] 1	ס ט	
75-35-4	1,1-Dichloroethene	1	ס ט	
	1,1-Dichloroethane	1	.0 U	
540-59-0	1,2-Dichloroethene (total)	ı	.0 U	
67-66-3	Chloroform	'	2 J	
107-06-2	1,2-Dichloroethane	1	.o   U	
	2-Butanone	l ı	ס ס	
71-55-6	1,1,1-Trichloroethane	נ	.o\U	
56-23-5	Carbon Tetrachloride	1	.0 U	
	Bromodichloromethane	1 1	.0 ע	
78-87-5	1,2-Dichloropropane	נ	.0 U	
10061-01-5	cis-1,3-Dichloropropene	] 3	.0 ע	
	Trichloroethene	]	.0 ס	
	Dibromochloromethane	] ]	.0 U	
	1,1,2-Trichloroethane	] . ]	.0 U	
71-43-2		1	.ס ט	
	trans-1,3-Dichloropropene	) 1	.o]U	
	Bromoform	]	LOU	
	4-Methyl-2-Pentanone	1	ro la l	
	2-Hexanone	1	70 D7	
	Tetrachloroethene	] :	LOU	
79-34-5	1,1,2,2-Tetrachloroethane	]	נס   ע	
108-88-3	Toluene	1	LO U	
108-90-7	Chlorobenzene	1	ro D	
100-41-4	Ethylbenzene	1 :	LO U	
100-42-5	Styrene	1	נס ע	
	Xylene (Total)	. 1	נס ס	

FORM I VOA

### VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA	SAMPLE	NO
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Lab Name: COMPUCHEM ENV. CORP.	Contract: 68D50004	JL918
Lab Code: COMPU Case No.: 24554	SAS No.: SDG	No.: JL916
Materiae (mail (material traffic	Tab Sample ID	. 796349

Matrix: (soil/water) WATER

Sample wt/vol:

5.0 (g/mL) mL

Lab File ID: CN096349B56

LOW Level: (low/med)

Number TICs found: 0

Date Received: 04/11/96

% Moisture: not dec.

Date Analyzed: 04/17/96

GC Column:DB624

ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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FORM I VOA-TIC

## VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JL919 SDG No.: JL916

Lab Name: COMPUCHEM ENV. CORP.

Lab Code: COMPU Case No.: 24554 SAS No.:

Contract: 68D50004

Matrix: (soil/water) WATER

Lab Sample ID: 796779

Sample wt/vol: 5.0 (g/mL) mL

Lab File ID: CN096779B56

Level: (low/med) LOW Date Received: 04/12/96

% Moisture: not dec.

Date Analyzed: 04/17/96

GC Column:DB624

ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: (uL)

CONCENTRATION UNITS:

CAS NO. COMPOUND

(ug/L or ug/Kg) ug/L

	·	
74-87-3Chloromethane	10	U
74-83-9Bromomethane	10	_
75-01-4Vinyl Chloride	10	_
75-00-3Chloroethane	10	_
75-09-2Methylene Chloride		JB U
67-64-1Acetone	10	-
75-15-0Carbon Disulfide	10	บ
75-35-41,1-Dichloroethene	10	U
75-34-31,1-Dichloroethane	10	Ù
540-59-01,2-Dichloroethene (total)	10	U
67-66-3Chloroform	2	J
107-06-21,2-Dichloroethane	10	U
78-93-32-Butanone	10	נט
71-55-61,1,1-Trichloroethane	10	<b>บ</b>
56-23-5Carbon Tetrachloride	10	U
75-27-4Bromodichloromethane	. 10	U .
78-87-51,2-Dichloropropane	10	U
10061-01-5cis-1,3-Dichloropropene	. 10	U
79-01-6Trichloroethene	10	U
124-48-1Dibromochloromethane	10	U
79-00-51,1,2-Trichloroethane	10	U
71-43-2Benzene	10	U
10061-02-6trans-1,3-Dichloropropene	10.	U
75-25-2Bromoform	10	U .
108-10-14-Methyl-2-Pentanone	10	LU
591-78-62-Hexanone	10	נט
127-18-4Tetrachloroethene	10	<u>ี</u> ט
79-34-51,1,2,2-Tetrachloroethane	10	ט
108-88-3Toluene	10	ט
108-90-7Chlorobenzene	10	ט
100-41-4Ethylbenzene	10	ט
100-42-5Styrene	10	U
1330-20-7Xylene (Total)	10	U
*		1

### VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

EPA	SAMPLE	NO
-----	--------	----

	JL919
0004	

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50

SDG No.: JL916

Matrix: (soil/water) WATER

Lab Sample ID: 796779

Sample wt/vol: 5.0 (g/mL) mL

Lab File ID: CN096779B56

Level: (low/med) LOW

Lab Code: COMPU Case No.: 24554 SAS No.:

Date Received: 04/12/96

% Moisture: not dec. _____

Date Analyzed: 04/17/96

GC Column:DB624 ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Aliquot Volume: (uL)

Soil Extract Volume: (uL)

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

Number TICs found: 0

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	Q
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FORM I VOA-TIC

## VOLATILE ORGANICS ANALYSIS DATA SHEET

EPA SAMPLE NO.

JL920

Lab Name: COMPUCHEM ENV. CORP. Contract: 68D50004

Lab Code: COMPU

Case No.: 24554 SAS No.:

SDG No.: JL916

Matrix: (soil/water) WATER

Lab Sample ID: 797003

Sample wt/vol: 5.0 (g/mL) mL

Lab File ID: CN097003B56

Level: (low/med) LOW

Date Received: 04/15/96

% Moisture: not dec.

Date Analyzed: 04/17/96

GC Column:DB624

ID: 0.53 (mm)

Dilution Factor: 1.0

Soil Extract Volume: (uL)

Soil Aliquot Volume: ____(uL)

CONCENTRATION UNITS:

CAS NO. COMPOUND

(ug/L or ug/Kg) ug/L Q

			T
74-87-3	Chloromethane	10	U
74-83-9	Bromomethane	. 10	ט
75-01-4	Vinyl Chloride	10	ט
	Chloroethane	10	lw
	Methylene Chloride	7	JB V
67-64-1		10	נט
75-15-0	Carbon Disulfide	. 10	บ้
75-35-4	1,1-Dichloroethene	10	שׁוֹ
	1,1-Dichloroethane	10	U
	1,2-Dichloroethene (total)	. 10	U
67-66-3		2	J
	1,2-Dichloroethane	10	U
78-93-3			רם
	1,1,1-Trichloroethane	10	
	Carbon Tetrachloride	10	ប
	Bromodichloromethane	10	1
	1,2-Dichloropropane	10	1 -
	cis-1,3-Dichloropropene		Ū
	Trichloroethene	P .	Ū
	Dibromochloromethane		Ū
	1,1,2-Trichloroethane		υ
71-43-2		ſ	Ü
	trans-1,3-Dichloropropene	I .	Ü
75-25-2		1	Ü
	4-Methyl-2-Pentanone		רמ
591-78-6		,	רם
	Tetrachloroethene	Į.	מו
	1,1,2,2-Tetrachloroethane		. שו
108-88-3			Ü
	Chlorobenzene	,	u u
		1	מוי
100-41-4	Ethylbenzene		1 -
		,	Ü
1330-20-7	Xylene (Total)	] 10	ט

FORM I VOA

## VOLATILE ORGANICS ANALYSIS DATA SHEET TENTATIVELY IDENTIFIED COMPOUNDS

- {	
	JL920

EPA SAMPLE NO.

Contract: 68D50004

Lab Code: COMPU Case No.: 24554 SAS No.: SDG No.: JL916

Matrix: (soil/water) WATER

Lab Sample ID: 797003

Sample wt/vol: 5.0 (g/mL) mL Lab File ID: CN097003B56

Level: (low/med) LOW

Date Received: 04/15/96

% Moisture: not dec.

Date Analyzed: 04/17/96

Dilution Factor: 1.0

GC Column:DB624 ID: 0.53 (mm)

Soil Aliquot Volume: ____(uL)

Soil Extract Volume: (uL)

Number TICs found: 0

CONCENTRATION UNITS: (ug/L or ug/Kg) ug/L

CAS NUMBER	COMPOUND NAME	RT	EST. CONC.	
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30		<u></u>		

APPENDIX F
TARGET AND ACTUAL ANALYTICAL OBJECTIVES

## Appendix F Data Quality Objectives for RAP Samples

Matrix	Analysis	Units	Targeted Detection Limit	Actual Detection Limit	Target Accuracy	Actual Target Accuracy	Target Precision	Actual Precision	Target Completeness*	Actual Completeness
Water	Volatiles	μg/L	10	2 - 10	76 - 115%	36 - 106%	14%	33%	90%	91%
	Semivolatiles	μg/L	10	10-25	7 - 125%	36 - 106%	20%	33%	90%	91%
	Inorganics	μg/L	0.2 - 5000	0.2 - 1090	7 - 125%	43 - 108%	20%	35%	90%	91%
	Ordnance Compounds ^b	μg/L	0.02 - 13.0	5 - 11.0	50 - 150%	12 - 241%	50%	60.2%	90%	91%
Sediments	Volatiles	μg/kg	10	2 - 28	59 - 138%	36 - 106%	24%	33%	90%	91%
	Semivolatiles	μg/kg	330 - 830	460 - 2400	19 - 137%	.36 - 106%	50%	33%	90%	91%
	Inorganics	mg/kg	0.02 - 5.0	0.14 - 422	75 - 125%	43 - 108%	20%	35%	90%	91%
	Ordnance Compounds ^b	mg/kg	0.25 - 2.2	0.63 - 6.03	50 - 150%	12 - 108%	50%	60.2%	90%	91%

^aCalculated from comparing planned and actual analytical results, including analyte rejections and field sampling plan deviations. ^bOrdnance compounds analyzed by EPA SW-846 Method 8330 (Revision 0, November 1992) under a RAP contract.

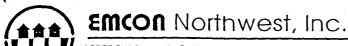
Notes:

RAP Regional Analytical Program

micrograms (1E-6 gram)

 $\mu g$ L Liter

milligrams mg kilograms kg



15055 SW Sequoia Parkway • Suite 140 • Portland, Oregon 97224 • (503) 624-7200 • Fax (503) 620-7658

April 17, 1995 Project 40139-001.049

Mr. William Webber Valley Landfills, Inc. P.O. Box 807 Corvallis, Oregon 97339

Re: Results of Groundwater Monitoring at Coffin Butte Landfill, Benton County, Oregon

Dear Mr. Webber:

This letter describes the results of groundwater sampling and analysis of selected wells at the Coffin Butte Landfill for radioactive substances. Five wells were sampled, four of which are downgradient of cell 1A, and one upgradient of the landfill. The downgradient wells monitor shallow and deep groundwater zones. The results demonstrate that there is no leaching of radioactive material from the landfill to groundwater. Below, EMCON describes the methods and procedures used for sampling and analysis.

Groundwater samples were analyzed for gross alpha and gross beta particle activities in water. The analytical method is a screening technique for alpha and beta particle activities according to the limits set forth under the Federal Safe Drinking Water Act (SDWA). The standard for gross alpha particle activity under the SDWA is 15 picocuries per liter. There is no standard for gross beta.

The water samples were collected on March 3, 1995, from wells MW-10S, MW-10D, MW-11S, MW-11D, and MW-13 consistent with the water sampling and analysis plan for the Coffin Butte Landfill. The samples were sent to Energy Laboratories, Inc., of Casper, Wyoming, for analysis.

The laboratory results (attached) show that gross alpha activity was not detected in samples from four of the five wells. In one of the samples (from MW-10S), a trace of gross alpha activity was measured at a level that is well below the standard. Gross beta activity was measured in samples from three of the wells, one of which is the background well (MW-13). The gross beta activity in the downgradient wells is equivalent to or less than that measured in the background well.

Mr. William Webber April 17, 1995 Page 2

If you have any questions about the results, please call.

Sincerely,

**EMCON** 

Eric J. Tuppan, R.G., Senior Project Geologist

Attachments: Laboratory Report

cc/att: Dorothy Atwood; EMCON, Portland



EL AGY LABORATORIES, INC.

P.O. BOX 3258 • CASPER, WY 82602 • PHONE (307) 235-0515 254 NORTH CENTER, SUITE 100 • CASPER, WY 82601 • FAX (307) 234-1639

LABORATORY ANALYSIS:REPORT = EMCON:Northwest Report Date: 03-22-95

Sample Gross Alpha (dissolved) Gross Beta (dissolved) Lab I.D. # Sample I.D. Date pCi/I Prec ± pCi/I Prec	<b>±</b>
2.8	2.2
W-13 95- 13189 CB-0303 95-1 03-03-95	
3.4	2.7
W-100 95- 13190 CB-0303 95-2 03-00-301	
1.9 1.8 1.9 1.8 1.9 1.8 1.9 1.8 1.9 1.8 1.9 1.9 1.8 1.9 1.8 1.9 1.8 1.9 1.8 1.9 1.9 1.8 1.9 1.8 1.9 1.9 1.8 1.9 1.9 1.8 1.9 1.9 1.8 1.9 1.9 1.8 1.9 1.9 1.8 1.9 1.8 1.9 1.9 1.8 1.9 1.9 1.8 1.9 1.9 1.8 1.9 1.9 1.8 1.9 1.9 1.9 1.8 1.9 1.9 1.9 1.8 1.9 1.9 1.8 1.9 1.9 1.9 1.9 1.9 1.9 1.9 1.9 1.9 1.9	******
1.4	1.4
W-11D 95- 13192 CB-0303 95-4 03-03-95 1.0	
< 1.0 < 1.0	
10	200000000000000000000000000000000000000
Detection Limit: 1.0	<del></del> '

MESTERNALSION-SWOW

April 27, 1995

Oregon Department of Environmental Quality
Charles W. Donaldson, Manager Solid Waste Western Region
750 Front Street NE Ste. 120
Salem, OR 97310

RE: Alternate daily cover material

Dear Mr. Donaldson:

Coffin Butte Landfill is using the James River Corporation (Halsey) recycled paper sludge for alternate daily cover. Per your letter dated 4/24/95, this material has met your approval for use as a daily cover. We request paying the \$.30 per ton on this material per temporary DEQ rule adopted Feb. 15, 1995. We expect to accept and use 15,000 tons per quarter of the James River sludge for daily cover.

Sincerely,

Gary A. Barton, Controller Valley Landfills, Inc.

May a Rat

Parameter (MCL in ppb)	MW- 10S	MW- 10D	MW- 11S	MW- 11D	MW- 12S	MW-17	MW-18	MW-19
Toluene (1000)	0.2	0.3	0.1	0.2	ND	ND	ND	ND
1,1,1-TCA (200)	0.2	0.2	0.2	0.6	ND	ND	ND	ND
TCE(5)	ND	0.1	1.5	1.6	2.8	ND	ND	ND
Trichloro- trifluoro- methane	ND	ND	0.1	0.3	ND	ND	ND	ND
Vinyl Chloride(2)	3.0	3.7	0.9	2.0	ND	ND	ND	ND
total Xylenes (10000)	0.2	0.3	0.1	0.2	ND	ND	ND	ND

ND = not detected above method detection limits

Elevated magnesium levels were also detected in MW-10, MW-11, and MW-17 which may be attributed to the disposal of magnesium wastes in Cell 1A by Wah Chang.

The site consultant contends that MW-17 through MW-19 can be used as new compliance monitoring points instead of MW-10 and MW-11 in this area. The results of analyses to date from MW-17 through MW-19 are predominantly 'non-detect' for parameters analyzed, however these wells do not extend into the fresh basalt unit as compared to MW-10D and MW-11D, where vinyl chloride has been detected at or above MCLs (chemical degradation path: PCE-TCE-DCE-vinyl chloride).

Pulp sludge that is used as cover material came into question in 1991 and 1992. A composite sample was analyzed for TCLP metals, TCLP VOCs, dioxin and furan. Only dioxin and furan were detected above method detection limits at 0.96 and 5.0 pg/g or parts per quadrillion.

Information was not available on the potential presence of radionuclides in the groundwater downgradient of Cell 1A. General information from Solid Waste Program representatives indicated that the Oregon Health Division had been notified when the issue was first raised in the mid-80s.

Table 1 Volatile Organic Compounds Detected Units in ug/l

Parameter	Date	MW-20	MW-21	MCL
MEK	9/29/93 2/24/94 8/11/94 11/4/94 2/10/95	2U° 2U 2U 2OU 2OU	4 5 2U 20U 20U	
cis-1,2- Dichloroethene	9/29/93 2/24/94 8/11/94 11/4/94 2/10/95	0.5U 0.5U 0.5U 0.5U 0.5U	0.6 0.5 0.5 0.6 0.5U	70
Toluene	9/29/93 2/24/94 8/11/94 11/4/94 2/10/95	0.5U 0.5U 0.5U 0.5U 0.5U	0.7 0.5U 0.5U 0.5U 0.5U	1000
Chlorobenzene	9/29/93 2/24/94 8/11/94 11/4/94 2/10/95	0.5U 0.9 0.5U 0.5U 0.5U	5.0 3.7 3.9 3.7 2.5	100
Total xylenes	9/29/93 2/24/94 8/11/94 11/4/94 2/10/95	0.5U 0.5U 0.6 0.5U 0.5U	1.2 0.5U 0.5U 0.5U 0.5U	10,000
1,2- Dichlorobenzene	9/29/93 2/24/94 8/11/94 11/4/95 2/10/95	0.5U 0.5U 0.5U 0.5U 0.5U	1.0 1.1 0.8 1.1 0.5	600

^{*} U = the material was analyzed for, but not detected at a concentration greater than the associated value.

One semi-volatile organic compound, bis(2-ethylhexyl)Phthalate, was detected at one sampling event in MW-20 and MW-21 at 40 and 330 ppb, respectively. This compound is a plasticizer commonly found in landfill leachate and also could be attributed to sample containers.

Major cations and trace metals were detected in the groundwater samples collected. The levels of trace metals were below drinking water standards.

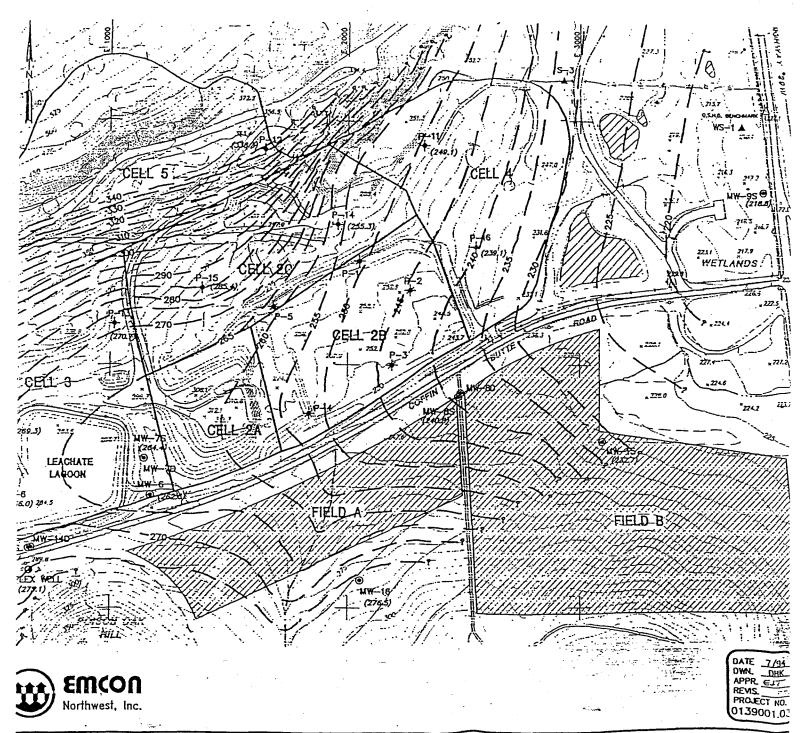
Water quality samples have not been collected from P-9 and P-10. Surface water quality samples collected from upstream and downstream location on Soap Creek indicate increased levels of indicator parameters at the downstream location.

<u>Cells 1 and 1A</u> are located on the south slope of Coffin Butte with a total estimated area of three acres. Seven monitoring wells and well nests were installed downslope of these two disposal cells. Well construction details are provided in Table 2 below.

Table 2
Well Construction Summary

Location	Total Depth (ft)	Screened Interval (ft)	Date Completed	Geologic Unit screened	Status
MW-5/S	4.5	3-4.5	11/16/79	alluvium	decommissioned 5/28/91
MW-5/I	30	24-29	11/16/79	wx basalt	decommissioned 5/28/91
MW-5/D	58	53-58	11/16/79	wx basalt	decommissioned 5/28/91
MW-10/S	32	22-32	8/2/85	wx basalt	in use
MW-10/D	77	67-77	8/2/85	fresh basalt	in use
MW-11/S	32	22-32	8/5/85	wx basalt	in use
MW-11/D	75	65-75	8/5/85	fresh basalt	in use
MW-12/S	26	21-26	9/19/91	wx and fresh basalt	in use
MW-12/D	61	55-60	9/19/91	fresh basalt	in use
MW-17	27	16-26	7/15/93	wx basalt	in use
MW-18	21	11-21	7/15/93	wx basalt	in use
MW-19	24	13.5-23	7/16/93	wx basalt	in use

wx basalt = weathered basalt



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